

UNIVERSAL
LIBRARY

OU_162108

UNIVERSAL
LIBRARY

OSMANIA UNIVERSITY LIBRARY

Call No. 327 / F 27 F

Accession No. 3223

Author F. W. Lenz, C.B.

Title Frontiers.

This book should be returned on or before the date last marked below

F R O N T I E R S

A S T U D Y

IN

POLITICAL GEOGRAPHY

BY

C. B. FAWCETT

B. Litt., Oxford : M. Sc., London

OXFORD

AT THE CLARENDON PRESS

1918

OXFORD UNIVERSITY PRESS

LONDON EDINBURGH GLASGOW NEW YORK

TORONTO MELBOURNE CAPE TOWN BOMBAY

HUMPHREY MILFORD

PUBLISHER TO THE UNIVERSITY

PREFACE

THIS essay originated as an expansion of an address on 'Frontiers' delivered to the Hampshire Branch of the Geographical Association at the University College of Southampton on November 19, 1915. The address, with many modifications, was repeated on March 15, 1916, at a meeting of the Bournemouth Natural Science Society. In both cases it was followed by some keen discussion and many questions.

Since the beginning of the War two volumes on Frontiers have been published in this country—Professor L. W. Lyde's *Some Frontiers of To-Morrow*, and Sir T. H. Holdich's *Political Frontiers and Boundary Making*. The character of the former is indicated by its sub-title 'An Aspiration for Europe'. The latter is a valuable contribution to the scanty literature of the subject, based on the wide experience its author has had on many boundary commissions, an experience which enables him to speak with authority on questions of boundary delimitation and demarkation. In its scope and treatment the present volume differs from both: it is intended to be a brief discussion of frontiers, rather than of boundaries, as geographical facts; and it aims at studying frontiers as they are and have been.

Besides the two volumes just mentioned, the only works devoted to this subject which are known to the writer are Lord Curzon's classic essay on *Frontiers*, which was the Romanes lecture at Oxford in 1907, and

a recent work on *The Frontiers of Language and Nationality in Europe*, by Leon Dominian, New York, 1917. Discussions of political frontiers and boundaries are to be found in many works on political and social geography. Among these may be mentioned F. Ratzel's *Politische Geographie* and *Anthropo-Geographie*, C. Vallaux's *Le Sol et l'État* and *La Mer*, and Miss E. C. Semple's *Influences of Geographic Environment*. The writer is quite unable to specify his particular indebtedness to each of these works, and to the numerous articles on matters relating to frontiers which have appeared in geographical magazines in the last few years. References have been given where any specific statement is made on the authority of a particular writer.

In any serious treatment of political geography difficulties arise from the lack of precision with which many of its terms are often used. Of this the word 'race' is a glaring example: this word has been so misused in modern journalism that it seems to have no precise meaning at all for the general reader; for this reason the writer has generally avoided using the word except in the strict sense in which it is used by anthropologists. The word 'state' as a politico-geographical term has at least two distinct meanings: in one sense it denotes a politically independent unit, a 'sovereign state'; in the other it denotes one of the major divisions of a federal unit. Thus the British Empire is one state; but within it there are many political units which must also be termed states; and in the case of one of these, the Commonwealth of Australia, the constituent units are also legally termed states; though there would have been less ambiguity had they been called provinces in

accord with the Canadian precedent. Obviously when we speak of each of New South Wales, Australia, and the British Empire as a 'state' we use that word in very different senses. Only from the context is it possible to decide in any particular instance in what sense this word is used—for it is impossible to speak of Queensland, or Texas, or Bavaria as provinces, as one can of Ontario, or Bengal, or Galicia.

Similar uncertainties arise in the use of the word 'nation' and its derivatives.¹ In this volume the writer has made an attempt to use these terms with some precision. Thus a 'nation' is a group of people united by a common sentiment. This sentiment is 'nationalism'; and when we write of Polish nationalism we are referring to a sentiment, not to a people. So a nation is not a state; yet the phrase 'international boundary' is so generally used to denote a boundary between sovereign states that it has been impossible to avoid using it in this sense; especially since the term 'interstate boundary' generally denotes a boundary between constituent units of a federal state. By 'nationality' the writer understands the group of qualities which characterize the people of any one nation: thus French nationality is that group of qualities (which it is almost impossible to define) which distinguishes the French nation from all others. Of the two adjectives, 'national' is used as referring to nation, and 'nationalist' as referring to nationalism.

In the use of the terms with which this work is more especially concerned, some recent writers have endeavoured to establish greater precision. Thus 'frontier'

¹ As for example in the essay on *The Principle of Nationalities*, by Israel Zangwill, and the preface contributed to it by Percy Alden.

denotes an area, and 'boundary' a line. In this usage the writer agrees with Miss Semple and Sir T. H. Holdich (*op. cit.*). Lord Curzon, in his essay on *Frontiers*, makes no clear distinction between the terms. Professor Lyde (*op. cit.*) has used the word frontier as synonymous with boundary. In regard to the terms 'delimitation' and 'demarkation' there appears to be now general agreement—delimitation is the process of defining a boundary on maps and in diplomatic documents, demarkation is that of marking it out on the ground.

The spelling of place-names in Europe follows that of the 1 : 1,000,000 map compiled by the Royal Geographical Society and printed at the Ordnance Survey Office.

In conclusion the writer wishes to express his thanks to Col. Sir C. F. Close, K.B.E., C.B., C.M.G., R.E., Director-General of the Ordnance Survey, for permission to use the library of the Ordnance Survey Office, and for many facilities for studying maps ; to Mr. G. G. Chisholm, of Edinburgh University, for kindly encouragement and suggestion ; and to all those who took part in the discussion on Political Boundaries at the meeting of the Geographical Section of the British Association at Newcastle in 1916.

C. B. F.

*University College,
Southampton.*

CONTENTS

CHAPTER		PAGE
I.	INTRODUCTORY	9
II.	ZONAL CHARACTER OF FRONTIERS .	17
III.	FUNCTIONS OF THE FRONTIER . .	25
IV.	NATURAL BARRIER FRONTIERS . .	34
V.	RIVER BOUNDARIES	50
VI.	ARTIFICIAL BOUNDARIES	62
VII.	FRONTIER MARCHES AND BUFFER STATES	75
VIII.	STRATEGIC FRONTIERS	85
IX.	EVOLUTION OF FRONTIERS	92
	INDEX	105

DIAGRAMS

FIG.	PAGE
1. Franco-Swiss Frontier near Lake Geneva	23
2. Darfur-Wadai Frontier	28
3. Alpine Passes and their Convergence	43
4. Central Prussia	83
5. Linguistic Areas in East Central Europe	96

CHAPTER I

INTRODUCTORY

THE existence of frontiers is a necessary result of the fact that human beings are not spread evenly over the surface of the earth. Even in so small a country as England, where every patch of ground has its owner, there are large areas, such as the Pennine moorlands, which are without permanent human inhabitants. In contrast to these empty spaces are the densely crowded urban regions. In several of the industrial counties the density of the population exceeds a thousand people to the square mile, and about the larger cities this high density is far surpassed. Similar high densities are reached in the fertile lower valleys of the Ganges, the Yang-tse-kiang, and the Nile, and elsewhere.

Such alternation of well-peopled and comparatively empty tracts is a regular feature of the distribution of living creatures over the earth. Some parts of the land surface are more fertile, or otherwise more suitable for occupation, than others ; and there is a strong tendency for the more favourable areas to attract to themselves a large population, while less fertile or less attractive regions are left with fewer inhabitants. We may, for our present purpose, regard the human population of the earth as a slightly mobile covering, of very varying thickness, spread over the land surface. And just as the vegetable covering of the earth varies in thickness

from the dense jungle of the equatorial forests, through the practically continuous, but much less dense, carpet of vegetation familiar to us in England, and the thinly-spread scattering of plants which struggle for existence on the deserts and the high mountains, to the almost complete absence of vegetable life on the ice-sheets of Greenland and Antarctica—and the continuity of this varying plant-envelope of the earth is completely broken by the sundering sea—so the human envelope varies in thickness from place to place over the habitable surface, and ceases entirely on the oceans and the polar wastes.

The vegetation of one fertile area is ordinarily separated from that of other such areas by the intervention of less fertile land with its thinner vegetation; and thus the areas of denser vegetable population are marked off from one another. The existence of such separate areas implies the existence of frontiers between them. These frontiers vary indefinitely in character and extent, from the usually distinct and narrow border of the land vegetation at the seashore and the less definite separation between woodland and heath, to the wide and ever-changing border zone of the deserts, where the desert expands with every period of drought and contracts after every wet season. And as different vegetation regions are marked off from each other so are the different animal regions. The greater mobility of the individual animal, as contrasted with the fixed habitat of the individual plant, undoubtedly tends to blur the boundaries of the faunal regions; for animals may migrate as individuals, while plants can, normally, only do so as new generations. Yet for widely separated regions, such as Siberia and India, the animals are practically as distinct as are the plants.

And although man is by far the most mobile and wide-ranging of all the animals, it is still true that he tends to remain in the neighbourhood in which he was born. Even the nomadic peoples, in normal times, confined their wanderings to a definite range. And it is safe to say that the great majority of the present inhabitants of the British Isles are the descendants of the people who inhabited this region when man settled down to agriculture, long before our written history begins: a conclusion supported by anthropological evidence as well as by *a priori* considerations.¹ Down to two or three generations ago only a very small proportion of the population of even the most highly civilized nations ever travelled far from the place of their birth. There are still many Englishmen living in the districts in which their ancestors have lived for many generations past; though their number is lessening every day as a consequence of the greater fluidity of the present-day population. In the last four centuries there has been a vast migration of people, on a scale which is without any precedent in the world's history, by which the new lands beyond the oceans have been peopled by settlers of European origin. And the earlier stages of this movement were accompanied by the smaller, but still enormous, forced migration of many millions of negro slaves from Africa to the Americas. Yet, though frequent movement and distant migration have become marked features of the life of large sections of the European peoples and their descendants,

¹ The sort of evidence here referred to is well exemplified by the paper on 'Geographical Distribution of Anthropological Types in Wales', by H. J. Fleure and T. C. James, in the *Journal of the Royal Anthropological Institute*, 1916.

the great majority of human beings still exist in vast stagnant pools of humanity, pools whose quiet depths are as yet almost unstirred by the currents of human movement which are elsewhere so vigorous. Thus, while the majority of the English-speaking peoples are now to be found outside the British Isles, the emigration from the great reservoirs of humanity in India and China is as yet insignificant in proportion to the numbers of these populations, though not in its actual volume.

In the past the spread of man over the earth's surface probably resembled that of other animals and of plants in that each generation tended to remain near its birth-place, and only by a slow out-spreading from areas which had become inconveniently crowded were the vacant spaces of the earth occupied. The human occupation of the world was so far completed before the dawn of history that we have no record of any important area of habitable land which was without inhabitants at the time of its discovery. Some small oceanic islands were uninhabited when first discovered by Europeans ; and it seems probable that the ancestors of the Maories found New Zealand empty ; but all accessible parts of the earth were occupied ages ago.

On each patch of more favourable land the inhabitants found themselves in close and permanent contact with each other as soon as they had settled down to the cultivation of the soil—a process which probably extended over many generations. Hence they tended to become a homogeneous group and, as a group, to become adapted to the region in which they lived, and therefore more or less distinct from other groups which lived under somewhat different conditions. Such differences

might be merely distinctions of dialect and local customs, as between Yorkshiremen and Lancashiremen, or they might extend to complete differences of race, of language, and of culture, as between the peoples of India and of China. The extent of these differences is evidently roughly proportional to the greater or less completeness of the barrier between the human groups. This is what might be expected ; for where the separation is almost complete and of long standing it is certain that the process of adaptation to different environments, together with the inherent variability of all living things, would lead to wide divergences, even if the groups were descendants of the same stock ; while across a slight barrier there would generally be sufficient intercourse to check the development of the greater differences ; and also in the latter case the environments would probably be less different. Generally speaking, abundant intercourse tends to promote mutual assimilation of race and culture.

And in the same way as the effectiveness of the barrier formed by the separating area is to some extent related to the amount of the differences developed by the peoples thus cut off from one another, so is its permanence. A wide stretch of ocean is probably the most complete and permanent dividing area that exists ; although the extent to which it really severs the dwellers on its opposite shores has been enormously reduced by the developments of navigation in modern times ; so much so that in some respects the ocean has become a link rather than a barrier. Next to the ocean in this respect we may place the great deserts. The Sahara has for ages separated the World of White Men from that of the Negro ; and it effectually prevented inter-

course between them on any large scale until it was outflanked by the opening of the sea route in the Age of Discovery. Yet it never prevented a slow filtration of small parties through it—of fugitives, adventurers, traders, slaves, missionaries, and explorers—so that the Negro exchanged some small influence with the Northern World ; while the broad Atlantic kept America totally unknown to Europe and Africa. Faint traces of Northern influence, as in the knowledge of metal working, penetrated to the lands south of the Sahara ;¹ but there is no evidence of any communication between negro Africa and South America, though between them the ocean narrows to some two thousand miles. Thus before the great discoveries which followed on the beginnings of trans-oceanic navigation in the fifteenth century, and heralded the great expansion of the European peoples, the land desert was a less complete barrier to human movement than the ocean waste. It was the great belt of deserts, stretching across the land mass of the Old World from the Sahara to the Gobi, that cut off the East from the West. In the Age of Discovery this barrier was outflanked by the opening of the sea route to the Indies, and East and West came into slight contact ; but not until it was pierced by the highway of the Suez Canal did this intercourse attain any important volume. In this century the desert belt has also been outflanked by the Trans-Siberian Railway ; and it will probably be pierced by two or more railways within the present generation.

Such separating areas, as these may be called, form permanent frontiers, since, so long as men live and

¹ See Sir H. H. Johnston, *The Opening up of Africa*, p. 123 London, n.d., and *The Nile Quest*, p. 8, London, 1906.

move on the surface of the earth, they make a distinct break between the inhabited regions. And this break remains, in spite of all improvements in means of locomotion, to remind every traveller of the existence of the frontier. But many international frontiers are of a different type. The barrier between East Anglia and the other kingdoms of early England consisted mainly of marshland. In its natural state this formed an effective frontier zone of separation; as we have seen the Pripet marshes form a barrier in the western frontier of Russia. But with the growth of population, and the accompanying increase of human control over the land surface, the fens have been drained and roads driven through them to such an extent that they have long ceased to be an actual barrier. And, far from being relatively empty of people, this low-lying land is now more densely peopled than the higher ground of East Anglia. An analogous change in a frontier may be caused by the discovery of mineral wealth in what was before an actually or relatively thinly peopled zone between two countries. The discovery of gold in the Yukon Valley and the exploitation of the iron ore deposits of the Lorraine highland have in recent decades drawn considerable populations to areas which were previously of little value, and so have caused in the first case a careful demarkation of the boundary between Canada and Alaska, and in the second the construction of roads and railways and a steadily increasing pressure on the Franco-German boundary.

Hence we may start by regarding a political frontier as an area of separation between two areas of more or less homogeneous, and usually denser, population. We should note that the effectiveness of frontiers in this

respect varies very widely with the physical character of the areas composing them ; and that, for any given frontier, this effectiveness may be greatly changed by the progress of settlement and changes in civilization. We should also note that the peoples of many distinct areas form more or less permanent units in the world's population. For instance, France has been a distinct entity for many centuries ; and it is likely to remain so for an indefinite future period. The same is true of England, Italy, China, and many other countries ; and also of such national groups as the Poles, the Czechs, and the Magyars. And no discussion of frontiers could be of much value if it failed to take account of such entities.

CHAPTER II

ZONAL CHARACTER OF FRONTIERS

ALL objective frontiers have some width. The common conception which is expressed in such terms as 'frontier-line' and 'border-line' is a result of the natural human tendency to think of things in sharply defined separate compartments: it is not based on careful observation of the facts. The frontier between sea and land, which is so often spoken and thought of as the coast-line, is really a zone of variable, and constantly varying, width. All round our shores the strip between the high- and low-tide marks, the foreshore, is neither sea nor dry land, but alternately sea and land. And the influence of the land affects the sea far beyond the low-water mark in numberless ways. It modifies the temperature and composition of the water, the trend and force of the currents, the character of the bottom and the amount of organic matter, and so the abundance and distribution of living things in the shore waters. Similarly the influence of the sea reaches inland for some distance from the coast, directly to the head of every estuary and inlet wherever the tides are felt, indirectly to all parts which are readily accessible from the coast or are exposed to the sea-breezes, and farther inland in other ways. So that our familiar term coast is, on analysis, found to denote not a line, but a broad zone between land and sea. Such a zone, in which the influences from the two sides mingle so as

to lessen the abruptness of the transition between the strongly contrasted regions which it separates, is a true frontier ; and such a mingling is the most characteristic feature of a frontier.

It is the same with all natural boundaries. In nature there are many fluctuating frontier zones, but no fixed boundary lines. The snow-line on the mountains shifts from season to season and from year to year: the actual limit of the perennial snows is somewhere in a broad belt of altitude. Away from the heart of the woodland clearings become larger and more numerous, the trees fewer and the landscape more open, till at last there are only clumps and scattered trees at the edge of the open country ; and, except round man's artificial plantations, it is not possible to mark the edge of the woodland as a line of no width. The scree lessens the abruptness of the transition from the steepness of the cliff to the flatness of the valley floor. The Himalayas are separated from, and joined to, the plain of India by their foot-hills. And along the base of every mountain system is the piedmont belt, which shares the properties of mountain and lowland and forms a frontier intermediary between these strongly contrasted regions.

As an example of a climatic frontier we may consider the northern limit of the Mediterranean region. The most characteristic feature of this climatic region is its combination of the hot and dry seasons in one. In Palestine, South Greece, and Sicily, the summer is almost rainless ; practically the whole of the rain falls in the winter half of the year. Farther to the north the winter is still the season of maximum rainfall ; but the summer is no longer rainless, though it is still, relatively, the dry season. Still farther north the

summer ceases to be the season of minimum rainfall, and the typical Mediterranean climate is left behind as we pass into the Central European region of summer rains. In one country, Italy,¹ the whole range from the purely Mediterranean climate of Sicily to the almost Central European climate of the plain of the Po is found. In the opposite, southward, direction, the rainless season of the Mediterranean expands until it includes practically the whole of the year, and the desert is reached.

The frontier marked by the vegetation is naturally of the same character as that marked by the seasonal distribution of the rain. The northern limit of such a characteristically Mediterranean plant as the olive overlaps the southern limit of the trees of the wetter Central European forests. And so it is with every frontier between vegetation regions. 'Wallace's Line' through the East Indies, which marks the transition area between the Oriental and Australian plant and animal regions, is a zone which is wide enough to include Celebes,² an island larger than England. West of this zone the flora and fauna are Asiatic, east of it Australian. But within this frontier which separates and unites the

¹ Monthly rainfall, in percentages of the annual rainfall, in different parts of Italy (from J. Hann's *Handbuch der Klimatologie*, third edition, 1908):

	Spring			Summer			Autumn			Winter		
	Mar	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Jan	Feb
Sicily . . .	11	8	3	2	0	1	8	14	14	15	14	10
South Italy .	9	9	7	4	2	5	8	12	13	13	10	8
Central Italy .	9	8	7	7	4	6	9	13	12	10	8	7
Plain of the Po	7	9	10	9	7	8	8	12	10	8	6	6

² For a discussion of the anomalous position of Celebes see Chapter XX of A. R. Wallace's *Island Life*, second edition, London, 1895.

two regions, their characteristic plants and animals are to be found in all stages of relative dominance.

The same zonal character marks human racial frontiers. From the negro lands of Guinea the population gradually changes, as one passes northward, into the mixed brownish type of the Sudan and the Sahara, where the Black and White races have long been in slight contact. And at the northern edge of the Sahara this mixed population mingles with the Mediterranean race of Southern Europe. In Europe itself the three principal races are nowhere separated by any well-defined boundaries. Maps showing the distribution of head-form, of skin-colour, of stature, or of any other important physical character in the population of Europe all show the absence of any precise racial boundaries and a confused overlapping and intermingling of racial types, from Algeria to Norway.¹

As with racial so it is, though to a less degree, with linguistic borders. Language is much more prominent in ordinary life than racial characters such as head-form or eye-colour; hence the linguistic border is more obvious; while its enormous social and political importance has always drawn attention to it. In the zone of contact of two languages there is usually a considerable intermixture. Many of the people in the highlands between the valley of the Rhine and the Paris Basin find it worth while to know both French and German; and the border dialects of each language are affected by the nearness of the other. It is not in a frontier province that we expect to find linguistic purity; and the spoken German of the Rhineland is less careful of minor

¹ See W. Z. Ripley, *The Races of Europe*, second edition, Oxford, 1908.

inflexions than that of interior Germany. Where in Poland the Slav and the German come into close contact there is a wide area in which a man may need to know two or three languages for the purposes of ordinary business, and where the monolingual person is seriously handicapped in numberless ways.¹ Along the past and present borders between English and Spanish speech in America, the former language has absorbed many Spanish words, some of which have passed into the speech of all the English, while others remain local. The English use, and have incorporated in their language, words learned from most of the peoples with whom they have come into contact ; and they have greatly enriched their vocabulary by so doing. Anglo-French remained a living tongue in the Channel ports long after it had died out in the rest of England, while it never had any real hold in the North Country. And perhaps the chief differences between the Northern and Southern forms of spoken English are due to the relatively greater influence of French on the latter, and of the Scandinavian tongues on the former. Yet because a man, to be understood at all, must speak only one language at a time, the boundaries between language areas are better known, and are in fact more definite and precise, than those of race or culture.

Even for the political frontier this zonal character is a prominent feature. It is through the frontiers of a state that it has relations with other states ; and its frontier areas are thereby differentiated from the interior parts of its territory. The sea has been in modern times the great highway of the world ; and the great seaports show in the mixture of peoples in their cosmopolitan

¹ See map, p. 96.

populations that here also is an area of mingling of peoples. The country which borders the open sea is neighbour to all the peoples who go down to the sea in ships ; and in the streets of great seaports—of London, Liverpool, New York, Hamburg, Marseilles, and other ports—may be seen representatives of most of the peoples of the earth. The sea provides a frontier which is sufficiently definite and precise for most political purposes. But even here the exact limits of the three-mile zone of territorial water are somewhat uncertain at the mouths of many inlets ; and such questions as whether the Irish Sea and Hudson Bay are British territory, or whether these and similar gulfs enclosed by the shores of one power are parts of the high seas common to all nations, may yet lead to frontier disputes. The steadily increasing attention paid to sea-fisheries may at any time bring such questions into prominence.

In vivid contrast to the state of affairs on a sea frontier, on a land border a nation is in direct contact with only one neighbour. And herein lies the great disadvantage of the state which has no seaboard. In modern times land boundaries are lines which mark the limits of the territorial claims and jurisdiction of the two states concerned. Such lines lie in zones which may, as on the Alps between France and Italy, be several miles in width between the customs barriers or may shrink to a few feet. Where this zone is uninhabited, the customs barriers are naturally placed at its edges ; but there are other cases in which the fiscal barrier is some distance within the boundary line. The tariff-free area along the south shore of Lake Geneva and round the Swiss canton of Geneva is an example of the formal establishment of a neutral trade zone in a political

frontier; here the fiscal boundary leaves the French districts of northern Savoy and the Pays de Gex free access to their natural focus in the Swiss city of Geneva, and allows free transit along the south side of the Lake of Geneva. This free-trade zone is also a neutral

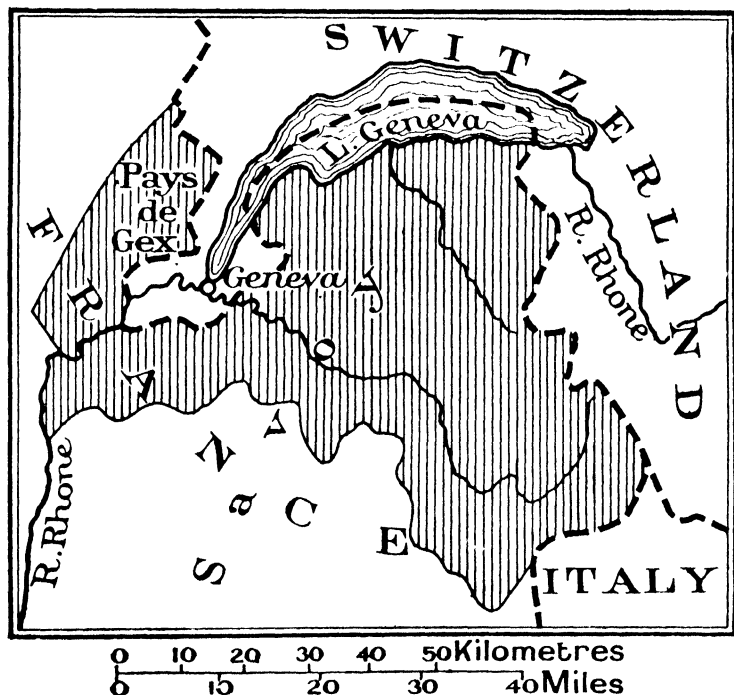


FIG. 1. FRANCO-SWISS FRONTIER NEAR LAKE GENEVA
(The shading marks the tariff-free area)

military zone.¹ Such precision of boundary limits is, however, a very modern development. The Cheviots

¹ This frontier is described in p. 350 et seq. of Fèvre et Hauser's *Régions et Pays de France*, Paris, 1909. The stipulations of the treaties of 1815 and 1860 in regard to it are given in Sir E. Hertslet's *The Map of Europe by Treaty*, vol. i, pp. 71, 156, 328, and 345, and vol. ii, p. 1429.

became the recognized boundary between England and Scotland in the eleventh century, after the battle of Carham (A. D. 1018); but the first attempt to determine a boundary line dates from 1222, over two hundred years later; and the Anglo-Scottish Boundary Commission then appointed failed to report.¹ The evolution of the conception of a boundary line, and the record of the attempts made to realize it and of its influence on the development of states, are sections of political history which do not appear to have received much attention.

[Frontiers are thus essentially transition areas—zones in which the characters and influences of two or more different regions or states come together.] Yet all regions are in some sense transitional; and it is only where the transitional character is a dominant fact of life in the area that we have a true frontier. The conception of frontiers—between inanimate things, of plant or animal regions, of human races, or cultures, or states—as lines is purely subjective. It accords with the tendency of the normal human mind to keep its ideas in separate compartments, since line boundaries are as convenient for thought as are precise definitions in other matters. But in the world as it is the objective fact is the existence of frontier zones. Of all these regions it is true to say that they pass gradually one into the other.

¹ Lord Curzon, *Frontiers*, p. 50, second edition, Oxford, 1908.

CHAPTER III

FUNCTIONS OF THE FRONTIER

BETWEEN the territories of two neighbouring savage or barbarous tribes there is rarely any precise boundary, unless a deep river gorge, of which the Colorado Canyon is the extreme instance, or a large river intervenes. The frontier is usually a wide empty space between the two occupied areas. Probably both tribes concerned lay claim to this area and hunt over it, or perhaps pasture their animals in it; but neither can safely occupy it. The territories of hunting and pastoral nomadic tribes are incapable of exact demarkation, for the hunters and herdsmen must follow where the game leads or good pasture calls; and hence the ground is not permanently occupied. Under these conditions encroachments on the ground claimed by a neighbouring tribe are frequent: the hunting path easily becomes a war path. Only where he fears to provoke a war, or where superstition checks him, is the barbarian likely to respect boundary marks. In early stages of civilization also the landmark received some protection from its semi-sacred character, from religious prohibitions and threats, and from taboos.

With the development of agriculture men gradually established themselves in permanent settlements or villages. Round each such village, in the earlier stages of agricultural civilization, there was a large area of vacant land which was often used but was not con-

tinuously occupied. This vacant space ensured that no possible enemy was stationed within easy striking distance of the village. Such were the empty grounds between the villages of the tribes of eastern North America, and such were the 'marks' which surrounded the villages in the primeval forests of Central and North-west Europe, wide stretches of unoccupied land through which a stranger could pass in safety only by keeping to a recognized track and announcing his presence openly. These conditions indicate the prime function of the mark: it was to protect the settlement from a surprise attack. Since a strong tribe would often hold possible enemies at a greater distance than a weaker one could do, the width of the mark was in part an indication of the strength of the tribe.

This primitive frontier system was exceedingly wasteful of land; for it necessarily placed the greater part of the area of the country out of reach of cultivation. To the savage this is no great disadvantage; he makes but little use of land, and so for him it has little value; and a few miles more or less is usually a matter of no importance to him. But with the gradual development of more settled modes of life, particularly of agriculture, the land is made to produce more; and therefore it becomes more valuable. Also the population increases, more land is necessary for its support, and so land-hunger becomes an important factor in the social life. Hence the occupied areas expand at the expense of the waste mark; and in time the peoples become unable to afford the luxury of an empty frontier zone to separate them from their neighbours and possible enemies. Between the territories of civilized states the boundaries are everywhere carefully

delimited ; and they are now for the most part actually demarkated. But where the frontier is formed by high mountains, such as the Pyrenees or the Alps, and the boundary lies along the crests, the frontier guards and custom-houses are usually stationed far below in the habitable land ; and the higher part of the mountain zone is still a waste mark, although a boundary line within it is shown on the maps as separating the two countries. This line does, in fact, indicate the limits of the claims of the two in their frontier. In such instances there is no need for a precise, and costly, demarkation of the boundary line on the rocky crests and amid the ice and snow of the summits. But under different conditions the actual demarkation of precise and visible boundaries may be necessary even in unoccupied territories. In the forest through which the northern part of the Peru-Bolivia boundary is drawn a clearing was made and marks set up, so that the rubber-gatherers and others should know where the boundary is and not cross it unwittingly.¹ Similarly the prairie boundary between Canada and the United States demanded demarkation before settlers had actually reached it.

A modern example of the frontier 'mark' between two states at a low stage of civilization was that between the Sudanese sultanates of Darfur and Wadai in the latter half of the nineteenth century.² In this zone there were some small tribes which remained independent by reason of their insignificance, so long as they

¹ For a description of this demarkation see the articles by H. S. Toppin and Sir T. H. Holdich in the *Geographical Journal* for February 1916.

² For examples of such frontiers see Boyd Alexander's *From the Niger to the Nile*, and many other records of African exploration.

were not in the way when war was active between the larger states. In Europe the little Pyrenean state of Andorra owes its independence to a similar position. An instance of a temporary reversion to the vacant zone by a highly civilized state, to avoid contact and

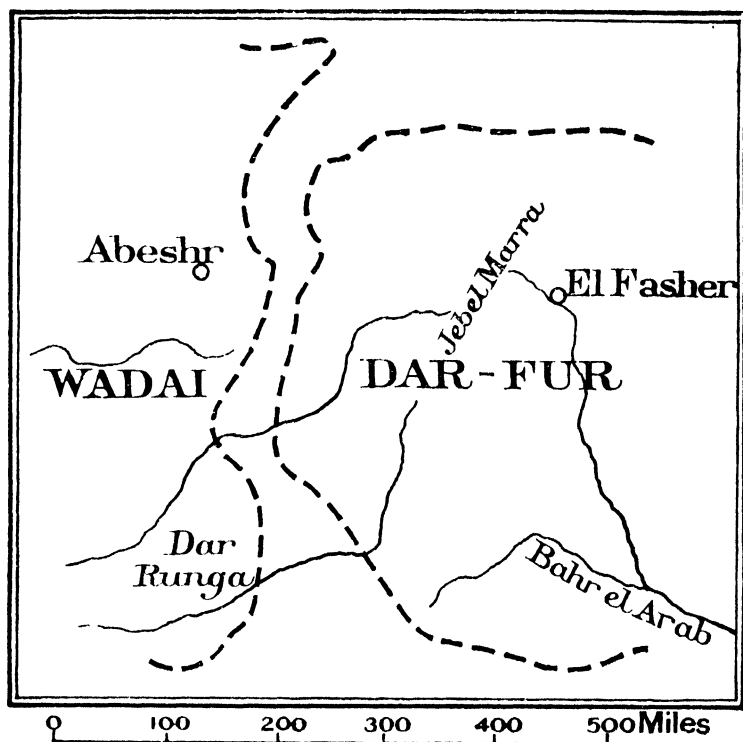


FIG. 2. DARFUR-WADAI FRONTIER

friction with an aggressive neighbour, was the withdrawal of the French military forces to a distance of ten kilometres from their eastern boundary in July of 1914. And a well-known modern example of this type of frontier is the neutral zone which separates Gibraltar from Spanish territory.

The prime function of such frontiers is that of protection, especially protection against surprise attack. And this remains one of the principal functions of the frontiers of the most advanced states. After 1871 France constructed the 'curtains', series of fortifications on her exposed north-eastern frontier. Similar series of defensive works, on varying scales, marked most of the frontiers between the military powers of Europe : as the Russo-German frontier was marked by the great fortresses of Königsberg, Danzig, Graudenz, Thorn, Posen, and Glogau on the Prussian side over against the entrenched camps of Novogeorgievsk, Ivangorod, Brest-Litovsk, Lomja, and Grodna, in each case with many smaller fortified places. So long as war remains a probability, or even a not very remote possibility, the need for self-preservation on the part of each state will ensure that this protective function of the frontier shall remain its most important and prominent one. And hence the choice of the boundary line will often be determined by the strategic and tactical considerations of the stronger party.

Besides acting as a place of defence against armed attack the frontier is a place of defence against other evils and dangers. Here was the quarantine. And here is now the place of the medical inspection which has so generally replaced the quarantine system as a safeguard against the admission of infectious and contagious diseases. For similar purposes it is common for a state to set up temporary internal boundaries, as when movement to and from areas of plague is restricted. On its frontiers, too, a state places its watch and ward for incomers of all kinds ; and here it stops those whom it regards as undesirable. In the frontier also is the

customs barrier, in the erection and maintenance of which the idea of protection is so often dominant. Hence we may fairly claim that the prime function of a frontier is that of the separation and protection of the people of its state from and against the foreigner.

Before the age of modern industrial developments and modern means of communication each important country obtained from its own natural resources nearly all the necessities of life for its people ; and then this function of separation was in some cases the only one to which attention was directed. During the long period of isolation of China and Japan this was the case on their frontiers. But in the West some intercourse between the peoples of different countries has been kept up since the dawn of civilization. The volume of this intercourse has been enormously increased within the last hundred years ; and now no civilized country is, or can be, entirely self-sufficing. Hence the second function of the frontier, that of the place of intercourse with the foreigner, is both absolutely and relatively more important to-day than at any time in the past.

The relative importance of these two main functions, of securing protection and of facilitating, or at least allowing, intercourse (which may be referred to simply as the functions of protection and intercourse respectively), varies considerably in both time and place. For primitive states, which are not yet firmly consolidated, the function of protection is all-important. At this stage war is the normal state of the foreign relations ; and the internal cohesion of the state is often insufficient to enable it to endure any close contact with others, especially with more advanced communities. (That contact with civilized peoples is dangerous to the integrity

and independence of semi-civilized states has been abundantly illustrated in the course of the European expansion of the last hundred years. In time of actual or threatened war it is evident that the function of protection is the principal one for any state. But between civilized states the normal state of affairs is not one of open war ; and in time of peace the needs of intercourse are more prominent, and the frontier is active in its second function.

In most frontiers this intercourse is more or less concentrated at particular passways across the boundary. Special cases of this concentration are the Treaty Ports of the Far East, to which foreign commerce was long limited. A similar concentration of foreign trade was effected by the mediaeval system of 'staples' in English commerce. But even where no such formal restriction exists, the foreign traffic tends to become concentrated at particular places. Thus approximately half of the foreign trade of the U.S.A. passes through New York ;¹ and the same port receives the great majority of the immigrants. In Britain more than half of the overseas trade passes through the two principal seaports of London and Liverpool, which in 1913 had respectively 29·3 % and 26·4 % of the total.² Across mountain frontiers traffic is naturally concentrated at passes and tunnels, such as the Mont Cenis and the Khaibar, and on other land frontiers where roads cross the boundary. The necessity of controlling the traffic leads to its being formally restricted to a limited number of such crossing-places on any land boundary. At the present day the

¹ G. G. Chisholm, *Handbook of Commercial Geography*, eighth edition, p. 495.

² *Statistical Abstract of the United Kingdom for 1913*.

chief of these are those at which the boundary is crossed by railways or waterways.

The relative prominence and importance of the two chief functions of a frontier also vary to a considerable extent with the nature of the area itself. Where the frontier is uninhabited, or nearly so, its chief characteristic is usually that of a separating area. Where on the other hand it is an area of dense population the intercourse of the two peoples across it is naturally of much greater volume. The Norse-Swedish and Franco-Belgian frontiers in Europe are well-known illustrations. Norway does less than 5 % of her foreign trade across the veritable zone of separation which cuts her off from her neighbours by land, and has made Denmark of more importance in her history than Sweden.¹ To this the Franco-Belgian frontier offered (before July 1914) the extreme contrast of an international boundary regularly crossed every morning and evening by Belgian workers going to and returning from the factories of the French industrial towns of the border.²

This grouping of frontiers into the two main classes of zones of separation and zones of intercourse (or of pressure) seems a more accurate and useful representation of the facts than the ordinary classification into 'natural' and 'artificial' frontiers. In the usual sense in which these terms are used a 'natural' frontier is one which is defined by some prominent physical feature of the earth's surface, such as the sea, a mountain range, a desert, a great river, and so on. But where states have developed on favourable areas, and thence spread

¹ *Norway*, official publication for the Paris Exhibition, Kristiania, 1900.

² *La Flandre*, by R. Blanchard, Lille, 1906.

outwards over the less favourable territory around, they must finally come into contact with each other, and so develop frontiers. If the contact is reduced to a minimum by occurring in a region which is almost or quite uninhabited, such as the sea, or a desert or mountain belt, the frontier is a zone of separation. But if the expanding states meet without the intervention of any such barrier they press upon each other along a frontier of contact, in an area which becomes well-peopled as it becomes fully occupied. And, while it is true that the pressure of the one state on the other is here greater, and hence that, unless the two are very equally matched or others intervene, the weaker will probably be absorbed by the stronger, such a frontier is quite as natural in its origin as one of the other type. If also we remember that the precise limits of the physical features which are sufficiently important to form 'natural' boundaries cannot be fixed—who shall decide how small a boundary river or hill is at the point at which the frontier ceases to be a 'natural' one and becomes 'artificial'?—the distinction seems to be of little value.

CHAPTER IV

NATURAL BARRIER FRONTIERS

Sea.

OF all the breaks in the continuity of the human population of the earth the sea is the largest and most prominent. On it no land animal (and man is essentially a land animal) can rest. To cross even the narrowest of unbridged straits a man must make a complete change in his mode of travel from that used on land ; and this fact strongly accentuates the separating effect of the water barrier. A traveller may pass from France into Belgium and be unconscious of any break ; but the sea crossing compels the voyager between Britain and the Continent to realize that the two are separated. Similarly the Englishman feels far less severed from his own country when he goes to Scotland or Wales than when he crosses to Ireland ; though he is less likely to hear a strange language in Ireland than in Wales or the Highlands, and the greater part of England is actually nearer to Dublin than to Edinburgh.

The effectiveness of the sundering sea as a frontier holding states and peoples apart depends on many factors, some of which are not constant. For while the sea is an uninhabitable waste it is also an open road. On it there are no natural barriers to the free movements of vessels except the polar ice ; though the need of rest and of fresh water and food long limited the voyager to the near neighbourhood of the coasts.

Between the Old World and the Americas the Atlantic is a void from two to four thousand miles wide. For ages this was an impassable barrier. Until yesterday it was possible for the citizens of the United States to imagine themselves so completely severed from the Old World that they need take no interest in the wars and ambitions of powers beyond the oceans. At the other extreme the width and form of the Solent and Spithead are such that the Isle of Wight is easily and visibly a part of England. The North Channel, between Scotland and Ireland, is only some fourteen miles wide ; while the distance from Ireland to North Wales is more than four times as great. But the North Channel lies between the highland districts of Antrim and Kintyre which, before the rise of the industrial regions of Ulster and the Clyde, were remote from the fertile and populous parts of the two countries and were comparatively poor and unimportant. Both Scotland and Ireland then faced eastward and south-eastward, towards England and away from each other : and thus the importance of their close approach was only slight and occasional. Farther south, in Cheshire and Lancashire, the English Lowland stretches through the Midland Gate to the shores of the Irish Sea. Here the North Welsh coast and Anglesey offer shelter from the prevalent winds for half the distance across ; and soon after the Holy Head sinks below the horizon the landmarks of Bray Head and Howth Head rise to guide the voyager into Dublin Bay, whence the whole of Ireland lies open. The earlier invasions of Ireland from England passed along the south of the Welsh upland, by the lowlands of Gwent and Pembroke ; but even then the route from Chester to Dublin was in many respects more important. And

after the defeat of the Norse Lord of the Isles and the conquest of North Wales in the thirteenth century opened these inner seas of Britain to the English, the Chester-Dublin sea route, which connects the English and Irish lowlands directly, avoiding the difficult highland areas on each side, became the principal line of communications between the two islands. Thus the relative effect of different parts of the barrier of the narrow seas between Great Britain and Ireland has depended more on the character of the shores than on the width of the Channel.

Where a strait is so narrow that the opposite shores, or islands, are intervisible, its separating influence is very largely counteracted. The lure of the dimly-seen purple heights attracts the curious and the adventurous. It appeals to the wander thirst of humanity. It offers a refuge to the fugitive. It tempts the cupidity of the trader. And it holds up a beacon over the trackless water. Hence we find off-shore islands closely connected with their mainland from the earliest occupation. So the Isle of Wight has always been united with the mainland ; while the Isle of Man has had a more independent history owing to its greater distance from the larger islands and its situation opposite the formerly less populous coasts of Great Britain. Small offshore islands are usually most numerous along coasts where mountains prevent easy movement inland. Here the islands attract and the mainland repels the wanderer ; and the sea loses its power to hold apart the peoples of its shores. Thus the Greeks spread across the island-flecked Aegean in the dawn of history ; and they have long occupied all its coasts to the foot of the highlands which overlook its waters.

The open sea forms a definite and indisputable frontier of separation ; but it is not in itself necessarily effective as a protecting area. The absence of any fixed reference points on its surface makes it an area on which movements leave no trace. Hence a sea border is open to surprise attack from any enemy who can cross the waters freely. All the invaders of Britain came over the seas and many of them effected surprise landings. And naval history shows that the longer the sea frontier of an enemy is the more it is exposed to attack by the power which commands the sea.

Desert.

Next to the wastes of water the great land deserts form perhaps the most effective zones of separation. Napoleon's view of their separating power may be quoted :—‘Of all obstacles which may cover the frontiers of Empires, a desert like this (between Egypt and Syria) is incontestably the greatest. Mountains like the Alps take second rank, and rivers the third’¹ (Napoleon's Commentaries). The power of the desert to separate and to protect lies in the absence of supplies for an army, or any other large body of men, travelling over it. In this respect the desert resembles the sea ; though it is nowhere so completely without fresh water and fixed points of reference.²

Each of the great deserts of the world has played its part in the history of mankind as a barrier region. The

¹ Yet Napoleon himself found later that the Channel, dominated by the British fleet, was a more effective barrier to his armies than the Syrian Desert.

² For a brief description of a desert frontier see the article on ‘The North West Frontier of Egypt’, in the *Geographical Journal* for February 1916.

Sahara has been the real southward limit of the civilization of Europe from its beginnings. And until the last decade of the nineteenth century no important military force had ever crossed it ; although there had been for ages a steady trickle of trade and intercourse between its northern and southern borders by the long caravan journey. The Chinese civilization was long effectively isolated and protected from the Western world by the great deserts of Central Asia. So the Kalahari sheltered the Bushmen and the Hottentots of the west from the incursions of the Bantu tribes when the latter overran the eastern parts of South Africa. And the deserts of Arabia have protected the tribes of the interior from all foreign conquerors—from Babylon and Assyria down to Turkey and Britain—and kept them apart from the rest of the world.

In quite recent years, however, the desert has lost much of its protecting power as a military frontier. The conquests of the Anglo-Egyptian Sudan and of Russian Central Asia were each made by an army moving across a desert. And in each case the conquest was rendered possible by the building of a railway which enabled the invading force to keep in touch with its base and to obtain supplies. Yet a desert is still an important military barrier ; for its poverty in supplies, especially of water, compels an army moving across it to keep to certain definite and comparatively narrow routes, i. e. to defile, so that its movements are easily anticipated and the defending forces can be concentrated.

In spite of railways the deserts are still bare patches in the human occupation of the earth. And as such they practically isolate the peoples on their borders from each other by the distance across, which prevents any

close or frequent intercourse between them. Thus California is still largely cut off from the populous eastern states of the Union by the length of the journey across the thinly-peopled semi-arid region of North America ; though its isolation is far less now than it was before the transcontinental railways existed, when the journey occupied months instead of days. But until our means of locomotion and power of transmitting water and energy enable men to dwell in the drier, and therefore healthier, parts of the earth deserts will probably remain among those regions of scanty population and difficult movement which are to be regarded primarily as frontiers of separation between populous inhabited areas.

Mountains.

After the oceans and the deserts as zones of separation come the great mountain systems. The barrier character of a mountain region is the resultant of several factors, the chief of which are : —

1. The rugged relief. This renders travel more difficult and laborious, and so hinders intercourse. Even where railways have been introduced in mountain lands the heavy costs of construction and working make their rates higher than elsewhere.¹

2. The comparative rarity of the air at great altitudes. This reduces the working power of man and other animals. Only the greatest mountain systems are so lofty that this factor is important on their lower passes.

¹ For a summary comparison of railway routes by lowland and through highland barriers see the discussion of the railways between New York and Chicago, in G. G. Chisholm's *Handbook of Commercial Geography*, p. 554, eighth edition, London, 1911. And, for Pennine railways, see the article by the writer in the *Scottish Geographical Magazine*, January 1917.

It is well known, as the mountain sickness, on the mountains of Central Asia and on the Andes, as at the Uspallata Pass (over 12,000 feet).

3. The colder climate of the high regions. This frequently limits travelling to the few months of the year during which the passes are free from snow. Above the zone of maximum rainfall is the desert of altitude, which further hinders movement. A highland region of very moderate altitude may, and often does, by its rugged relief and relative poverty in supplies of food and forage and by forming a distinct climatic region, interpose a serious barrier between the lowlands which it separates. The Pennine upland, with an average altitude of less than 2,000 feet, and many gaps below 1,500 feet, thrusts a belt of uninhabited land from three or four to nearly ten miles in width between the eastern and western lowlands of northern England. And its roads are very frequently blocked by snow in winter.

These factors of relief, altitude, poverty, and so on vary from place to place even in the same highland area. Hence a mountain barrier is never uniform. It varies from complete impassability down to slight difficulty, from a trustworthy defence to a slight obstacle along the border.

Most of the important mountain systems which stretch east and west form climatic barriers; this adds to their separating power. It is well marked in the Alps and the Himalayas; while in the Rocky Mountains the less difference of climate and vegetation on their flanks makes them relatively a less definite area of separation. The Andes, south of the Equator, form a corresponding climatic frontier because of the great difference between the rainfalls of their eastern and western slopes, as

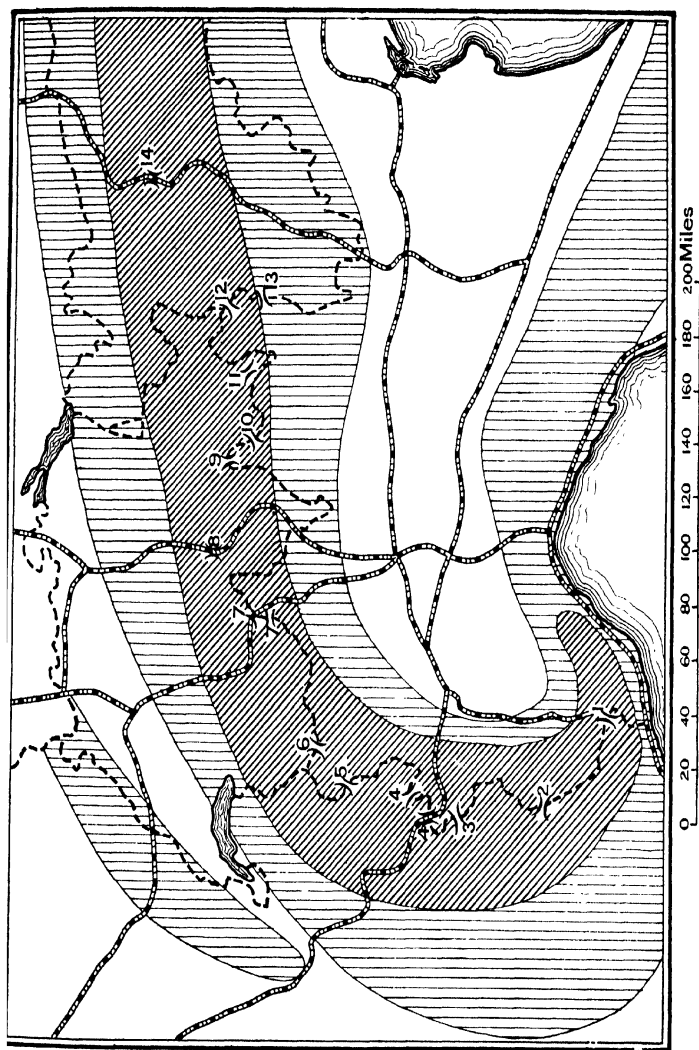
well as because of their altitude. In such cases the difference of climate and products, together with the limited intercourse across the mountains, tends to aid differences of development in the two lowlands which may make the mountains also a cultural and linguistic frontier.

All these factors tend to make mountains relatively unattractive to the peoples of the more fertile lowlands, and so areas of scanty population. Except in a few favoured valleys, and the more numerous mining districts, the highland areas of middle and high latitudes are thinly peopled tracts; and they have been prominent in history mainly as barrier and transit regions, and in social development as 'poverty spots'. In the hot belt of the world, on the contrary, many highlands of moderate elevation are more thickly peopled than the still untamed forest and swamp or the arid plains of the lower lands. Here the highlands are the centres of population, as in the Andean lands from Bolivia northward and in eastern Equatorial Africa and Abyssinia. Highlands which rise above deserts are also more favourable to man than their surrounding lowlands, and so become areas of relatively dense population. Instances of this are the mountains of Yemen in South-west Arabia, the Tibesti Mountains of the Sahara, the Macdonnell Range in Central Australia, and many mountains of the Asiatic arid regions. Where mountain and desert come together the desert asserts its greater power of repelling human occupation.

A mountain system is not a thin screen between the lowlands it separates. Even the Pennines form a separating zone some miles in width; while that of important mountain systems is many times greater.

The width of the Alps varies from eighty to a hundred and fifty miles : and the high Tibetan plateaus, of which the Himalayas are the southern border, have a width of about 750 miles north of Calcutta. This last region, in which few of the valley bottoms are at so low an altitude as ten thousand feet above the sea, is backed on the north by the deserts of the Tarim basin and the Gobi and forms with them the most complete and formidable land barrier in the world. This northern frontier of India is one of the most effective zones of separation to be found on the surface of the earth. It has effectually preserved India from invasion from the north ; but even here the Mongol race has occupied the valleys down to the Himalayan foot-hills, where the Mongoloid Ghurkas and Bhutias border on the Hindus of the plain.

The extent to which a mountain system is a barrier is inversely proportional to the ease with which it can be crossed. And this depends on several factors, of which the height of the passes in relation to the snow-line, the steepness of the ascent, and the length of that part of the road which is at high altitudes, are among the most important. Thus the Alps, rising by gentle slopes from the South German and Swiss plateaus and riddled with easy passes, have as a defence for Italy often proved to be only the 'splendid traitor' that Napoleon called them ; while their steep rise from the plain of the Po makes them a much greater obstacle to any penetration from the Italian side. The Roman advance into Central Europe reached the Rhine Lands by way of the Rhone Valley, and so avoided the Alpine barrier. Few or no mountains hold an even balance in the struggle between the peoples or states they separate. They favour one side more than the other. Thus, in addition to the



PASSES.

1. Col di Tenda.
2. Col de Larche.
3. Mont Genèvre.
4. Mont Cenis.
5. Little St. Bernard.
6. Great St. Bernard.
7. Simplon.
8. St. Gotthard.
9. Splügen.
10. Maloja.
11. Bernina.
12. Stelvio.
13. Tonale.
14. Brenner.

FIG. 3. ALPINE PASSES AND THEIR CONVERGENCE
The darker and lighter shadings indicate zones of greater and less altitude respectively.

difference of slope on the two sides of the Alps, the form of the mountain arc round the North Italian Lowland makes it possible for an invader to use several neighbouring passes and yet unite his forces easily on emerging from the mountains; while such a use of several passes in the opposite direction would lead to a scattering of forces on the farther side of the barrier, since the passes converge towards Italy and diverge away from it.

A system which consists of a series of more or less parallel ranges is often a greater barrier to transverse communication than a single range of much greater altitude. Between such parallel ridges the longitudinal valleys offer routes for considerable distances; but these valleys are usually connected with each other and with the lowlands on the flanks of the mountains only by difficult transverse gorges. Prominent instances are furnished by the Appalachian system and the Jura Mountains; but most mountain systems have something of this character. Hence the more important passes are often found where the closing in of the ranges, or deep re-entrant valleys, enable the traveller to cross by one high pass instead of by a series of passes. In the Alps the importance of the St. Gotthard and Brenner Passes is largely due to this factor.

Yet although mountains are essentially barrier regions, and their separating function has always been generally recognized, it is rare for the crest of a range to coincide with a racial or linguistic boundary. In soil, climate, and products, the highland is one region and the lowland another: and the boundaries of vegetations, of cultures, of race, and of language are more likely to be found where these two regions meet. In the Western

Alps French is the tongue of the mountain people, and it meets the Italian speech at the eastern foot of the mountains ; though the political boundary line is drawn along the crests. In the same mountains the highland state of Switzerland reaches down to the edge of the Italian plain ; though the language of Ticino is Italian. And farther east in the Tirol the Germans have overflowed the Brenner and occupied the valleys of the Adige and its upper tributaries as far south as Bozen. Here the political boundary also was drawn (from 1866 to 19—) at the edge of the plain, though the population of the lower valleys is Italian. The Pyrenees form one of the most stable political frontiers of Europe, and the Franco-Spanish boundary in them has been settled since 1659 ; yet they are neither a racial nor a linguistic divide for the whole of their length, for the Basques occupy both slopes at the western end and Catalan is spoken both north and south of the eastern end of the range.

The physical obstacle which a mountain system opposes to the spread of the lowland peoples is strongly reinforced by the resistance of the mountaineers, and by the differences, largely produced by the mountain environment, which make them strange and often hostile to the lowlanders. The resistance of a mountain tribe was of more importance in the past than it is in modern warfare ; but it is still a factor which may add greatly to the protecting power of a mountain frontier.

It may be worth while to note here that, because of their height and the rugged relief, and consequent variability of air currents and cloudiness among them, mountains may form a much more serious obstacle to aerial navigation than a sea or desert of moderate width.

Thus the developments of aerial means of communications may modify the relative importance of these types of barrier frontiers.

Forest.

In the civilized lands of Western Europe the forest has ceased to count as an important barrier area. As minor obstacles woods have still a considerable prominence in military operations; though this is often because the forest occupies, and adds to the difficulty of, an area of rugged relief, and limits the passage of large bodies to a few defiles. The forests of the Ardennes, the Vosges, and the Karpathians add considerably to the difficulty of crossing these obstacles. And the smaller Argonne Forest has been a material aid to the defence of France. But in Western Europe the forests are small and well tamed. The dense primeval forests of uncleared lands are far more formidable separating areas. The selvas of the Amazon formed a completely sufficient defence on the eastern frontiers of the states of the Andes; and to this day these forests are unexplored and almost impassable away from the near neighbourhood of the navigable rivers which form the only open ways through them.

Primeval forests are not easily penetrated, even by small bodies of men. Unless such a party can live on the fruits and game, a very unreliable resource, the forest has little or nothing to offer for their subsistence and they must carry full supplies. The abundance of cover favours any resistance to an invader which may be offered by the natives of the forest; and only in some of the open northern forests is movement at all easy. In some circumstances a forest may be a com-

plete barrier. The fly-infected forests of inter-tropical Africa set a definite limit to the raids and conquests of the pastoral peoples of the surrounding grasslands. The primeval forests of Europe barred the progress of the hordes of pastoral nomads who came as invaders from the open grasslands of Central Eurasia, since without a fundamental change in their mode of life they could not penetrate areas in which their vast herds could not find sufficient food. And almost everywhere the forest is a thinly peopled area which holds peoples apart by interposing between them a comparatively long, difficult, and sometimes dangerous journey. But with the construction of roads and railways through it, and the extension of clearings, the separating power of a forest is so enormously reduced that as a frontier zone it has ceased to be of great importance in civilized lands.

Swamp.

It is probably in most cases more difficult to cross an extensive swamp than a hill range of moderate elevation, or a forest; though swamp and forest are very often associated. Hence such a swamp may form an effective barrier to movement. Instances of the protecting power of a marsh frontier are abundant. In our own time the Pripet marshes of West Russia and Poland have limited the effective movements of armies. The steaming swamp of the Terai holds apart the Hindu of the plains and the Ghurkas, and has protected the independence of Nepal. The interior of Equatorial Africa was long hidden from European eyes by the fever-laden mists of its swampy coast lands. The Nile delta ends, like many others, in a series of marshes which separate the firm ground of its valley from the

open sea, and held the Egyptians away from the Mediterranean and the active life of its shores ; so that the one great port of Egypt, Alexandria, owes its foundation and growth mainly to oversea peoples. Calcutta has a somewhat similar position in relation to Bengal. The Batavians taking refuge from the Romans in the swamps of the Rhine delta, the Hollanders in the same area restoring the swamp conditions in their fight against Spain for independence, and the restoration of the marshland along the Yser to-day, all illustrate the protective value of a marsh frontier. In time of peace, in a populous and civilized land, the marshes are drained and intersected by embankments which bear roads and railways to such an extent that their separating power may seem to have vanished. But if the system of drainage works is destroyed or disorganized the land relapses at once to its former condition of marsh ; and only the embankments, along which troops may defile, remain to lessen its barrier character.

Where the mean temperature of the winter months descends below the freezing-point a swamp loses some of its power to separate during that season. It may even, because of its level surface, become an area over which movement is easier than elsewhere. But it remains unpeopled, and in its poverty of resources it is still a barrier. In regions of cold winters marsh frontiers have played a much smaller part than elsewhere. Venice and Holland owed far more to the swamps which separated them from powerful neighbours than did Finland or Poland ; though the swamp frontiers of the latter were much more extensive.

In many cases the draining and reclamation of an area of swamp has totally changed its relative value to

the people ; so that it is now more populous than the higher grounds between which it previously formed an area of separation. This is the case with the English Fenland, which is now more densely peopled than the dry ground of the East Midlands (Mercia) and East Anglia. Here the barrier character has completely vanished.

CHAPTER V

RIVER BOUNDARIES

RIVERS have long been regarded as being in some sense 'natural' boundaries. And in our own time the choice of streams, preferably navigable streams, as political boundaries has been strenuously advocated.¹ But in countries of old civilization, where the demarkation of the internal provinces has been accomplished as the result of a slow process of growth rather than as a definite act of administration, it is very noticeable that few of the boundaries are drawn along such streams. In China the chief rivers, or their larger tributaries, do not form provincial boundaries, except for comparatively short stretches along the gorges of the upper Yang-tse-kiang and the middle Hwang-ho. The same is true of the great rivers of northern India; and of the rivers of Indo-China, with the exception of the middle course of the Mekong. The one important navigable river boundary of Asia, the Amur, between Manchuria and eastern Siberia, is of comparatively recent adoption (1858); and it has given occasion for considerable friction between Russia and China. On the political map of Europe (as in July 1914) few large rivers form international boundaries: the chief instances being parts of the lower Danube and of its tributaries the Sava and

¹ See Professor Lyde's article in the *Geographical Journal* for February 1915, and his book on *Some Frontiers of To-morrow: An Aspiration for Europe*, London, 1915.

the Prut—all in a region of recent political adjustments and unstable equilibrium. In England few of the boundaries of the historic counties are drawn along its navigable streams, though here the Thames is a marked exception. A similar statement is true for most of the Scottish and Irish county lines, again with the exception of parts of the Forth and the Shannon respectively. Of the larger rivers of France, only the arrowy Rhone was a boundary for the pre-Revolution provinces for more than a very short distance. In fact in all Europe the Rhine above Mannheim, and the lower Danube, are the only prominent cases of large rivers forming political boundaries for any considerable distances and times.

In the newer lands river boundaries are fairly common. The only large river of Australia, the Murray, separates the two most populous states of that continent. In Canada the Ottawa is the only prominent boundary river. The far larger St. Lawrence is, from above Montreal to the sea, within the one province of Quebec. In the United States river boundaries are frequent. East of the Appalachians the Delaware, Potomac, and Savannah rivers form interstate boundaries, though the more important Hudson and Susquehanna do not. In the centre the Mississippi and Ohio separate states along most of their length ; and there are several other boundary rivers. West of the Rockies only a part of the Snake River and the lower courses of the Columbia and the Colorado form interstate boundaries. It is noteworthy that the almost impassable Canyon of the Colorado is not made use of as a state boundary. Nearly half of the boundary between the United States and Mexico lies along the Rio Grande del Norte, a river

which is, owing to its very variable volume and shifting channel, a particularly unsatisfactory mark. In the southern parts of South America and of Africa river boundaries are also prominent.

Such a hasty review of the existing relations of rivers to boundaries may suggest that it is only in somewhat exceptional conditions that a river offers a suitable boundary line. The reasons for this are not far to seek. Man is primarily a dweller on the lowlands and by the streams. Rivers tend to attract human settlements for many reasons.¹ They provide an ample supply of fresh water ; near them the land is usually less rugged, more fertile, and more easily accessible and cultivable than elsewhere ; near the streams, too, trees and brushwood are most abundant ; hence it is here that the native or the settler finds the readiest supplies of food and fuel, and material for his tools and buildings. On most parts of the land surface the river valleys are the routes along which movement is easiest—though this was not generally the case before man had attained to mastery over the forests. Where the river is navigable it is itself a route ; but in any case the valleys offer easier gradients and fewer obstacles (apart from difficult gorges) than are met with along other routes. There are only two common cases in which the line of the river is primarily an obstacle to movement. The first is when an unnavigable stream flows at the bottom of a deep gorge which cannot be easily bridged. The best-known instance of this kind is the Canyon of the Colorado, which, with its mile-high cliffs, forms a complete barrier

¹ Compare the article by Miss M. I. Newbigin on the 'Geographical Treatment of Rivers' in the *Scottish Geographical Magazine* for February 1916.

to all but flying animals for most of a distance of some three hundred miles. It is the gorges and rapids of the Mekong which have made that river so long a political boundary. The gorges and rapids of the Brahmaputra in its passage through the Himalayas have prevented intercourse between the upper and lower parts of its valley; and the similar gorges in the Western Himalayas have contributed to the isolation of Kashmir. In the Dekkan there are several boundary rivers, parts of which are also in gorges. The same is true of South Africa. In each of the last two cases the region is a plateau with marked wet and dry seasons, and the rivers undergo large seasonal variations in the volume of their waters. The streams are frequently sunk far below the general level of the surface, and this fact, combined with the variability of their flow, makes them barriers rather than routes.

Where a political boundary crosses a river it frequently takes advantage of a gorge which breaks the line of communications along the valley. This is the case at the Iron Gates of the Danube, at Passau, and (before 1913) on the Morava, where the Serbo-Turkish boundary crossed at the Gredelyitza Ravine.

The second case in which the valley is primarily a hindrance to movement is when it is occupied by marshes. Even if the river is navigable a marshy valley is an obstacle to settlement and to transverse communications. If the stream is not navigable the marsh hinders travel in any direction. The lower Danube between Romania and Bulgaria is primarily a marsh barrier; for though the width of the stream, which here averages half a mile at low water, makes it a considerable obstacle, the river is easily navigable and the real frontier

is the belt of marshes along its northern bank maintained by Romania as a defence.¹ Farther east the series of embankments and bridges which carried the railway across between Fetești and Cerna Voda had a length of over ten miles. In well-peopled lands marshes have been steadily reduced in extent with the progress of civilization. But in most cases in which a stream, especially a small stream, has been long recognized as a boundary, the fact is that it drained a marsh which formed the real frontier; and the line was indicated by the river solely because that was the most convenient way of defining it. The Eider, which was the boundary between Denmark and the Empire for more than a thousand years before 1864, is an instance.

A river, as a boundary, possesses the one great advantage of being easily recognizable, and hence of needing no demarkation. This advantage is particularly valuable under primitive conditions and in thinly peopled or unoccupied territories, where a recognizable limit is needed and a precise and costly demarkation is undesirable or unnecessary. Some of the North American river boundaries seem to be inheritances from this stage of development. But against this advantage there are very great disadvantages associated with the adoption of rivers as boundaries between civilized states. A valley is a natural unit; and as the land becomes fully occupied the river tends to become the axial line of an area of dense population, and so a place of frequent intercourse in trade and social life: so that the peoples of its banks become more or less

¹ See R. Butler, 'The Frontiers of Central Europe and their Defence', in the *Geographical Teacher*, Summer and Autumn 1912, vol. vi, pp. 251 and 335.

assimilated to one another. Very few rivers form linguistic or cultural divides—the Danube between Romania and Bulgaria is almost the only prominent instance. The unity of the valley is aided by the fact that the easiest and, since they pass through the areas of dense population, the most profitable lines for roads and railways lie along it. Railways border both banks of the Rhine from Basel to the delta.

With the advance of civilization it becomes essential to control the course of the river, to drain its bordering marshes, to deepen the channel here and remove obstacles there so as to facilitate the clear flow of the waters and navigation. And in some cases the supply of water-power, or of water for town supply or for use in irrigation, is important. But if two states share the control of one river these matters may each and all become sources of friction between them. The river is one. To strengthen one bank, or deepen the channel, or take out water at any one place affects the current, and so disturbs the conditions at the other bank, and both up- and down-stream from the place where it is directly modified. The natural migration of the meanders becomes a source of political complications. Many people have heard of the Chinaman who went peacefully to sleep in his house within a bend of the Murray in Victoria, and woke to find himself a resident in New South Wales because of a shift of the river, and of how he was promptly charged with his failure to pay the poll-tax due on his entering the latter state. In the United States the regulation of rivers which flow between states, and of some others, is the duty of the Federal Government, because only in that way was it possible to avoid disagreements among the states concerned.

Such disputes may be readily settled between divisions of one state ; but where the river boundary is international there is no superior court of appeal, and their recurrence is likely to lead to attempts to unify the control of the valley by a war of conquest.

Where the water is used for irrigation on a large scale the physical unity of the valley is still more strongly emphasized in its reactions on the inhabitants. The rulers of Mesopotamia and Egypt have always sought to control the upper valleys of their rivers, so as to be in a position to exert complete control over the supply of the water which is the life-blood of any civilization in those countries. Control of Sind is incomplete without control of the Panjab ; since an increase in the amount of water used in the up-river province involves a decrease in the available supply down-stream. Differences in regard to the allotment of the water, and consequent friction, are likely to arise wherever more than one state has a claim on the water-supply of one river system for purposes of irrigation. In south-eastern Australia the states of New South Wales, Victoria, and South Australia found it necessary to take concerted action in controlling the Murray irrigation systems, for which the Commonwealth Government is now chiefly responsible. And the United States has had some difficulties on both the land boundaries of its semi-arid region in respect to the use for irrigation of the waters of the Colorado and the Rio Grande and of some of the streams which cross the Canada-United States line west of the Lake of the Woods.

In the vast majority of cases the drawbacks of a river boundary for a civilized state in a settled and populous land far outweigh the advantage of its easy recognition.

Few such boundaries have survived for any long period. As an indication of the limits of its territorial claims and responsibilities an expanding power may fix on a large river as its nominal boundary, but in such a case the river is rather a base for the defence of the frontier or for further conquest than a settled limit. The Rhine and Danube boundary line of the Roman Empire forms the classic instance. Both rivers were primarily regarded as marking the limits of Roman administration and responsibilities and as bases for the defence of the Empire. Roman influence and power extended far beyond them at its maximum. And neither river has remained a boundary, either linguistic or national, except where the marsh belt of the lower Danube adds a zone of separation to the river line. On the other hand, the Gallo-Roman tradition has often led to a claim that the Rhine is the 'natural' north-eastern limit of France, and has helped to foster French ambitions to reach that river. A somewhat similar instance was the 'Military Frontier' of the Austrian Empire against the Turk along the Sava and the Danube, which led to these rivers forming the southern boundary of Hungary, though the people of the valleys are Slavs.

Such river boundaries are usually only temporary expedients. The Amur is still nominally the dividing line between Russian and Chinese territory in the Far East; but in fact the basin of that river is a frontier region. In it Russian military and political power is dominant; but the establishment of a settled government has led to the immigration of many Chinese, on both sides of the river, and the valley has now a much larger Chinese population than before in spite of some

attempts to discourage such immigration made by the Russian Government.¹

The rapid discussion of the so-called 'natural' types of frontier in this and the preceding chapter may be illustrated by reference to those of Britain.

Britain is cut off from the rest of the world by its insular position ; and this relative isolation is reflected in all its history. Even in this twentieth century the narrow seas enormously reduce the volume of intercourse between Britain and the Continent in comparison with that across a land frontier. ' In 1911, according to Mr. Sartiaux, Chief Engineer of the French Northern Railways, there were 2,800,000 travellers between France and Germany, with a combined population of 100 millions ; 4,350,000 between France, Belgium, and Holland, with a joint population of 50,000,000 ; and only 1,650,000 travellers between England and the whole of the European continent.'² These figures indicate that the proportion of cross-frontier travellers to the joint populations were approximately :

(a) between France and Belgium and Holland, 1 in 11.

(b) between France and Germany, 1 in 40.

(c) between Britain and Europe, 1 in 250.

In the first case (a) the frontier between France and Belgium is primarily one of intercourse ; and the identity of language and similarity of cultures on the two sides of it favour a very large volume of cross-

¹ Manchuria is in some respects a frontier between Russia and Japan, although it is nominally Chinese territory.

This paragraph refers to conditions as they were before the Russian Revolution.

² See pamphlet on *The Channel Tunnel*, p. 18, published by the Channel Tunnel Company, London, December 1913.

frontier travel (and see p. 32). In the second case (*b*) the differences of language and culture and the latent hostility tended to lessen intercourse across the Franco-German boundary. Yet even this cross-frontier travel is five or six times greater in comparative volume than that across the narrow seas.

It is interesting to compare with the figures given above those for the passenger traffic to and from the United Kingdom in 1913 (from the *Statistical Abstract*). They are :—

(1) Passengers to and from non-European countries :

Outward from U. K.	Inward to U. K.	Total.
701,691	372,618	1,074,309

(2) Passengers to and from European countries, including all ports on the Mediterranean and Black Seas :

Outward from U. K.	Inward to U. K.	Total.
1,184,412	1,309,874	2,494,286

These statistics tend to show that it is the fact of a sea-crossing, and not its length, which is a deterrent to travellers. Probably the great majority of the passengers to and from non-European lands are exchanged with North America, where the prevalence of the English language and traditions, and the presence of many immigrants from Britain, are favourable to an active intercourse. The joint English-speaking populations of Britain and North America number about 150 millions. Hence in proportion to population the intercourse between these lands is almost twice as great as that between Britain and Europe. Yet all these figures emphasize the fact that the sea is still relatively a frontier of separation.

There are no deserts and no high mountains in Britain. But the influence of a highland barrier is well

shown in the maintenance of the Welsh and Gaelic speech and of the Welsh and Scottish nations. The limits of the numerous petty states which occupied the islands from the sixth to the tenth centuries offer examples of several types of land frontier. Sussex, based on a fertile coastal plain and the valleys of the South Downs, was bounded northward by the forest of the Weald, eastward by the Romney marsh, and westward by the swamps extending inland from the shallow inlets of Hayling and Langstone harbours to the foot of the Downs. The clayey soil of much of the Weald probably made the forest also marshy, and it added to the difficulty of travel in wet weather long after the demands of the iron-working had caused the almost complete clearance of the forest. Within its bounds of forest and marsh, and with no good harbours on its coast, Sussex was in many respects the most isolated of the early English kingdoms. It was the last to accept Christianity. And even now, though partly submerged under the expanding metropolis, it is one of the most individual of the English counties. A marsh frontier on a larger scale, in the Fens, cut off East Anglia from Mercia. And the marshes of the lower Thames and the Lea formed the western frontiers of Kent and Essex. River boundaries were less common. The traditional northern limit of Angle Northumbria was long the Forth, the 'Scots Water'. But this kingdom was broken by the difficult and barren highland of the Cheviots, passed by only a narrow strip of coastal plain ; and when the settlements in the lowlands of the north and south developed into separate states it was here that the frontier between them was finally established ; though the Angles were successful in imposing their

language on all but a small minority in the western highlands both north and south of the Cheviots. In the gap between Cheviot and the sea the chief obstacle and most easily defensible line was that of the lower Tweed ; and this therefore became the boundary here. But, before the railway age, it was usually across this part of the Tweed rather than across the Cheviots that peaceful travellers or invading armies made their way. Hence though it forms only a sixth of the boundary, and most of its course is in Scotland, the Tweed marked the route between the two countries to such an extent that each was, to the other, 'beyond the Tweed'.

But the river boundary is best illustrated in Britain by the Thames, which long marked the limits of Wessex and Mercia and is still for the greater part of its length a county boundary. For most of its length the Thames was formerly bordered by wide stretches of marsh and floodland ; and both West Saxons and Mercians came to it overland, from south and north respectively. Hence it formed the most formidable and continuous obstacle and the most easily recognizable boundary between the two. And it naturally became an administrative boundary when the Midlands were finally conquered and organized from Wessex. For similar reasons the course of the wide and sluggish Shannon forms the boundary between Leinster and Connaught.

CHAPTER VI

ARTIFICIAL BOUNDARIES

WHERE no natural feature exists to mark the place at which the territory of one state ends and another begins it is necessary to establish some artificial boundary mark. In the past this need also arose when an empire extended so far that the mere distance¹ of its frontiers from the bases of its power made it difficult to maintain authority there, and equally difficult to defend such distant territories. For though the arm of authority be long much of the strength of its grasp is lost in transmission to several weeks' distance ; and an army is weakened by every increase in the distance from its base. The length of the journey from the English Lowland to Scotland was a chief factor in preserving the independence of that country ; and still more in fostering and preserving its distinct national traditions and separate life. The same need for an artificial boundary mark arose where natural advantages led to the growth of two states between which no marked barrier region existed : that is, the boundaries in frontiers of contact are largely artificial. In early times such boundaries were marked, and defended, either by the formation of a waste frontier, or by the erection of a barrier.

Of these artificial waste frontiers the best known instance is that which separated China and Korea down

¹ 'Distance' in this sense is to be measured by the time necessary for the journey.

to the latter half of the last century. Here an area of some five thousand square miles was set aside as waste ; settlement in it was prohibited ; while passage across it was limited to a particular route. A smaller, and less formal, example was the 'Debateable Ground' at the head of the Solway Firth in the mediaeval Anglo-Scottish border. Such an unorganized no-man's-land naturally and inevitably became a place of refuge for outlaws and fugitives, and hence a danger to the security of life and property in the frontiers of the two states. So long as these frontiers were very thinly peopled, and little regarded by their owners, the state of affairs might be regarded as tolerable ; but for any settled civilized state such an artificial waste as a permanent frontier is impossible. This type of frontier is near akin to the more primitive neutral strip between two countries ; and at earlier stages of political development it has great attractions in that it provides an aggressive state with a possibility of expansion, and it enables the statesmen concerned in settling the boundary to postpone many thorny questions of delimitation. Semi-civilized states have rarely desired to have their boundaries precisely demarkated. The frontier between Persia and Turkey till very recently, like that between England and Scotland in the Middle Ages, was marked by a border zone of indefinite width and characterized by a petty border warfare, which was always smouldering and could be fanned into war at the desire of either country. Not until states became more stable, and peace the normal condition of the foreign relations, was there any general desire for precise boundary lines.

The second type of artificial boundary, the barrier, is very widespread. The Great Wall of China and the

Palisades, the Walls of the Roman Empire in Britain, in South Germany, and in the Danube lands, and Offa's Dyke are well-known instances. In the great majority of these cases the barrier marked a frontier between peoples at different stages of civilization; and it was erected and maintained by the more civilized power for purposes of defence. These barriers were very costly, both in construction and in maintenance; but their great extent and long duration is evidence that under the circumstances of their time they did effectively serve the purposes for which they were designed. These purposes were various. When it was well manned the barrier gave real security from the small plundering raids to which the settled lands were otherwise exposed. On the mediaeval Anglo-Scottish border cattle-lifting raids were frequent, and the border country was kept in constant insecurity; but while the Roman Wall was in order the Picts could not raid the land to the south of it. Offa's Dyke appears to have been constructed mainly to prevent such incursions from the Welsh Upland. The barrier also served as a first line of defence against more serious attacks, and as a military base for guarding the frontier or for further conquests or punitive expeditions. The Wall was also the administrative boundary. At its gateways the customs were collected; and incomers and outgoers were subjected to a more or less careful scrutiny. As a check to smuggling, and an aid to the inspection of travellers, the barrier, in the very modern form of a barbed-wire fence with electric alarms, has been revived in our own day on parts of the boundary between Italy and Switzerland and elsewhere. And the erection of such a barrier-fence between the Belgian territory occupied by Germans

and Holland was mainly due to the desire of the Germans to have complete control over all passage across that boundary.

Between states which were on similar levels of culture the artificial barrier of the past was better represented by the 'military frontier' of the Habsburg Empire against the Turks in the eighteenth century. Here a wide strip of land along the north bank of the Danube and Sava was set apart for the defence of the imperial territory. It was largely colonized by refugees from the lands to the south which had been conquered by the Turk; and its inhabitants were organized as a military force to serve as a first line of defence. Somewhat akin in conception were the palatine counties of Durham and Chester on the English borders.

An artificial boundary of a quite different character was adopted in England when, in the Treaty of Wedmore (A.D. 937), the Roman road called Watling Street was accepted as marking in part the dividing line between the English and Danish kingdoms. Here the result of long wars between the two peoples was mutual exhaustion; and the line accepted was merely a convenient and visible mark between their territories. It was not in any sense a barrier; nor does it lie in a barrier zone. Since in fact the English Lowland is not large enough for the permanent existence of two independent states, the Treaty of Wedmore was no more than a truce; and it is quite probable that its authors regarded it in that light. Such a purely artificial line could only form a stable boundary if it separated peoples of quite different languages and cultures—so that assimilation was practically impossible—and if the forces on the two sides remained in practical equilibrium; a group of conditions

so unlikely that they may be regarded as impossible for any length of time. The fact that it coincided with no natural or linguistic or cultural divide made Watling Street only a temporary boundary. As soon as the powers ceased to be of equal strength the stronger reached across it.

In modern times the political map, especially of the newer lands, bears many patently artificial boundary lines. The English traditions of order which have dominated settlement in North America and Australia are partly the cause of the prevalence of artificial straight-line boundaries there. The laxer system of occupation of South America by the Latin peoples is reflected in the less regular boundaries on that continent. A practical classification of these artificial lines is set out by Lord Curzon in his *Frontiers* (p. 34). He divides them into three classes :

1. Pure astronomical lines, which follow a parallel of latitude or a meridian of longitude.
2. Geometrical lines, such as a straight line joining two specified points or tangent to a circle, or an arc of a circle whose centre and radius are specified.
3. Lines of reference.

In practice the second and third classes need not be separated ; the third includes the second.

These boundary lines have certain general characteristics in common. They ignore all the minor, and some of the major, features of the land surface, and cut up a country with very little regard to its natural divisions or routes, or the linguistic or tribal boundaries, or the feelings or wishes of the inhabitants. Also such lines are the easiest to draw in the seclusion of a study or at

a council table ; but very frequently their demarkation is a costly and difficult operation which may give occasion for many disputes—especially when the terms of reference are based on insufficient knowledge of the areas concerned or are expressed in ambiguous phrases.

To agree on a purely astronomical boundary line is one of the easiest ways of delimiting the relative territorial claims of two civilized powers in an unexplored land, and just so long as the land remains unoccupied it is satisfactory. The meridian of 141° W. forms the boundary between Canada and Alaska for over 600 miles from the Arctic towards the Pacific. When the discovery and exploitation of the mineral wealth of the Yukon Valley led to the growth of settlements near this boundary it became necessary to carry a laborious triangulation along it, make a detailed survey, and place artificial landmarks so that inhabitants and local administrators should be able to know whether they were in the British Empire or United States territory. In this subarctic land, which was, and is, very sparsely peopled and has no agricultural value, the ignoring of physical features and tribal boundaries causes less disturbance than it would elsewhere. But the cost of the demarkation seems high in proportion to the value of the land. Similar meridian boundary lines formed the eastern limits of German South-west Africa (20° and 21° E.) and small parts of other boundaries of European spheres of influence in Africa. In Australia the interstate boundaries are mostly astronomical ; though it is significant that the non-astronomical boundary lines are those in the more populous south-east of the continent. The meridian of 141° E. defined the eastern limit of South Australia, and it also forms most of the boun-

dary between the British and Dutch spheres in New Guinea. Between Victoria and South Australia this line was marked out on the ground in 1847 and 1850. Later and more accurate surveys showed that an error had been made in the survey, and that the demarkated boundary is not exactly on the 141st meridian East. Hence arose a dispute, and a demand for the re-survey of the boundary, which was only settled when the Privy Council decided that the boundary should stand as originally laid down.¹ It is easy to realize that such a dispute between sovereign states might have led to war. In Central Australia the astronomical boundary lines may well be sufficient ; because the desert is the real frontier and there is no need for actual demarkation of the whole line. Except in North America, it is chiefly in desert or semi-desert lands that such boundaries exist.

By far the best known astronomical boundary line is that part of the 49th parallel of north latitude which forms the boundary between Canada and the United States from the Lake of the Woods westward to the Strait of Juan de Fuca, a distance of some 1,500 miles. On the plains this line crosses some of the rivers of the semi-arid region in such a fashion as to provide matter for differences concerning irrigation rights ; and in, and west of, the Rockies it cuts across valleys and ridges with a complete disregard of natural lines of communication or of obstacles. The papers of British Columbia and Washington find in the International Boundary and its absurdities a source of jokes as prolific as the mother-in-law. Given goodwill between the peoples the boundary is workable ; but even now, more than half a

¹ The judgement was given on January 28, 1914. (See *Times* of January 29, 1914.)

century after its delimitation, the work of surveying the line and marking it by a strip of clearing and cairns is not yet finished. This is perhaps the least efficient and most costly boundary line on the earth.

The lines of reference have probably been the sources of most of the boundary disputes of the last hundred years—usually because the diplomatists who delimited them were ignorant of the exact position of the points of reference, or even assumed the existence of definite features which did not in fact exist. The majority of the differences between the British Empire and the United States have arisen from such errors inserted in treaties with all the confidence of ignorance. For instance, the treaty¹ which left Nova Scotia to Britain, and stated that the boundary should be drawn ‘due north from the source of Saint Croix River to the Highlands’ and thence between ‘those rivers that empty themselves into the river St. Lawrence’ and ‘those which fall into the Atlantic Ocean’, was evidently drafted in ignorance of the facts that it was uncertain which of several rivers was the Saint Croix, and that the country is a maze of highlands. Later the River St. Lawrence was called ‘the river Iroquois or Cataraquy’, without any indication that this name refers to the St. Lawrence. The differences arising from this carelessness were not settled definitely till the Ashburton Treaty of 1842. And owing to this same treaty Canada is still handicapped by the fact that the direct route from the populous St. Lawrence Valley to her open winter ports on the Atlantic passes through the northward projection of the ‘Wilderness’ of Maine, an area whose value to the United States is very small, though

¹ Treaty of Paris, 1783.

it is of considerable importance to Canada. Manifestly in such a case the better course would be to follow the spirit rather than the letter of the treaty ; but as international morality has not yet reached such heights, it is to be expected that the state favoured by the mistake will take full advantage of it. In the same way the curious fragment of United States territory to the north-west of the Lake of the Woods is a memento of the fact that the relative latitudes of that lake and of the Mississippi River were not accurately known at the time of the delimitation of the boundary.

Another well-known instance of differences arising from reference lines delimited in ignorance of the area affected was the boundary between Canada and the Alaskan 'panhandle'. Here the inland limit of Alaska was defined as 'running along the mountains parallel to the coast or a line parallel to the windings of the coast which shall never exceed the distance of ten marine leagues therefrom'. Attempts to define the boundary line led at once to discussion as to the exact meaning of 'coast'. Was it a line along the outer promontories or by the heads of the deepest inlets? Was the boundary to be parallel to every twist and turn of a tortuous fjord coast, or merely to its general direction? And especially, where the deeper inlets reach in more than ten leagues from the ocean, should the head of the inlet belong to Canada or the United States? As every one knows the Arbitration Commission came to a compromise which gave to the States all the important points at issue.

Still another series of difficulties, in the demarkation of the Durand line between the Indian Empire and Afghanistan, arose from the various interpretations of

the ambiguous term in the proviso that the boundary should be drawn along the 'foot of the hills'.¹

Nearly all the boundaries in North America appear to be artificial, with the exception of those that lie along the great rivers. The origin of these lines may perhaps be traced to the method by which the charters granted by the Stuart kings parcelled out the coast among the original colonies. Usually each was allotted a section of the coast bounded to north and south either by a river or a parallel of latitude; and these land boundaries were continued westward without any mention of a limit in that direction; unless a prior charter enabled a neighbouring colony to claim the hinderland. On the great plains of the interior there are, for the most part, no definite natural barriers; and the tendency to lay down mathematical boundaries was thereby strengthened. By the time the organization of the cordilleran region into territories became necessary, the artificial line boundary had become a habit with the administrators and surveyors of the Union; and the map now represents the extraordinary phenomenon of eleven mountain states among which only one boundary, three-fourths of the Montana-Idaho line, is drawn along a ridge; and only in three other comparatively short sections, on the middle course of the Snake River and the lower parts of the Columbia and Colorado Rivers, do any of these interstate boundaries bear any close relation to the very marked surface features of a mountain and plateau region. And the lower part of the valley of the Colorado, where the water is obviously the first essential for any settlement in this arid region, is intersected by the boundary between the United States

¹ Lord Curzon. *Frontiers*. v. 20.

and Mexico and shared by two states in each country—California and Arizona, Sonora and Lower California—as if with the intention of complicating the control of the necessary irrigation as much as possible.

It is a significant result of the artificial character of the interstate boundaries in the United States that in very many of the states the largest towns and chief centres of population have developed in a corner of the state. New York and Buffalo, Philadelphia and Pittsburg, Cincinnati and Cleveland, Detroit, Chicago, Milwaukee, Cheyenne, Portland (Or.), and Kansas City (Kan.) are each in a corner of their respective states; while other large cities, as St. Louis, Minneapolis-St. Paul, and Omaha, are on the edge of a state. Hence it frequently happens that men reside in one state and do business in another, and that some of the suburbs of a city are in a neighbouring state. Such anomalies must lead to difficulties in local administration and to inequalities in the distribution of local burdens. Tales of the boundaries between 'wet' and 'dry' (prohibition) states often point these difficulties of administration; as where saloons in the 'wet' state cluster at the end of a bridge or along a road which connects it with the neighbouring 'dry' state.¹

Canada, with broadly similar surface features but a much simpler distribution of settlements, has a much more rational series of internal (provincial) boundaries than her neighbour. In the east the divisions are the result of growth rather than of arbitrary decisions. And the relative narrowness of the cordilleran system north of 49° N. lat. allowed one colony to occupy the

¹ This refers to the conditions before prohibition was extended to all the states.

whole width from the Pacific to the crest of the Rockies. On the prairies the boundaries of the provinces have been drawn with reasonable regard to the actual, and probable future, positions of the chief population centres. Only between Lake Superior and Manitoba and in the British Columbia section of the Peace River District is there much likelihood of the growth of populations whose economic relations may tend to draw them away from the provinces in which they are situated—the former towards Manitoba and the latter towards Alberta. But within the Dominion provincial boundaries have been altered; so they may be altered again if changes in the distribution of the population render such action desirable. The abandonment of the earlier ‘sketched-out’ provincial boundaries on the prairies in the organization of the prairie provinces in 1905 showed that Canada had avoided the error of regarding the preliminary division as final.

In Africa the numerous readjustments of boundaries made by the ‘Agreements’ between the powers show that there is some recognition of the fact that the delimitation of spheres of influence in an imperfectly known land is essentially only a preliminary stage in the establishment of boundaries. The Commissioners sent out to demarkate these boundaries have usually had a reasonable latitude in the interpretation of the Agreement; and they could depart somewhat, on the basis of mutual concessions, from the line previously marked on the map. Where such a line of reference is found to have been based on faulty information or insufficient knowledge its final position is evidently matter for fresh negotiations. Instances are the readjustments of the lines between Uganda and the Belgian Congo,

and between Nigeria and the French Sudan, by the British-Belgian and Franco-British Agreements. The adjustment of several boundaries in South America by similar compromises—often drawn up by neutral arbitrators—has also resulted from fuller knowledge and occupation of the land, helped by a fortunate vagueness in many Spanish colonial statements as to boundaries which left an open door for negotiation. The practical recognition of the tentative character of such preliminary boundary lines, with their consequent peaceful readjustment, marks a great advance in international politics ; and a wider extension of the principle would make for peace among the nations.

CHAPTER VII

FRONTIER MARCHES AND BUFFER STATES

A FIRST duty of the rulers of any settled state is to maintain its frontiers in security. This necessitates an active interest in the neighbouring territories and may sometimes demand, or even compel, interference in their affairs. Where a civilized state abuts on lands occupied by barbarians, among whom no comparable political organization exists, the peace of its frontiers can most readily be secured by one of two methods. It may extend its territory by the conquest and incorporation of these restless neighbours. In doing so it ensures the tranquillity of its former frontier only by extending its responsibilities over wider areas and to greater distances from the centres of its power. If such an extension of its responsibilities is dreaded, either because of the difficulty of the conquest or the remoteness of the territory or for any other reason, the state must abandon any attempts at expansion, adopt a policy of more or less passive defence, and establish a military barrier in its frontier. Instances of the adoption of each of these frontier policies are well known. The Roman Empire was largely guided by the former in its periods of growth; while its adoption of the latter led to the erection of its walls against the northern barbarians. Similarly in some periods the rulers of China extended their suzerainty over the highlanders of Tibet and far into Central Asia; but under other circumstances they built

the Great Wall and the Palisades to hold off the pastoral nomads on their northern and north-western borders. In India the 'forward' policy has taken the British raj by stages from the Ganges delta beyond the Sulaiman Mountains ; just as in the modern 'partition of Africa' the frontiers of the European settlements have been safeguarded by the extension of their rule ; since for modern powers the fixed barrier against barbarian inroads has no attractions. Only where, in Abyssinia, there was a nation capable of union in defence of its independence has any native African state been left outside the European spheres of influence.¹

Where the differences between the stages of political development of the states concerned were less wide, other methods of guarding a frontier have been employed. The Roman walls were probably effective in their day. But the feudal system gave the state no organized central power capable of maintaining a barrier or regular guards in its frontiers ; and hence it developed, or rather there grew up, the 'March' system which characterized mediaeval Europe and has so profoundly affected subsequent European history. The 'March' frontier system was by no means confined to this period or continent ; though it was specially widespread then. This system consisted essentially in the establishment, usually by the expanding power, of frontier provinces which were placed under permanent military chiefs charged with the duty of guarding the frontier. Such chiefs, as the Lords of the Marches of England, or the Markgrafs of the Holy Roman Empire, had necessarily a very large amount of independence. The frontier

¹ Even Abyssinia is the subject of agreement between Britain and Italy.

was not held from a continuous barrier, like the earlier walls and dykes, but from a series of castles which formed bases for a mobile army: a plan which was closely analogous in its military, though not in its political, aspects to that of the hill forts and frontier guards on the present north-west frontier of India.

March-lands may be conveniently grouped into three principal classes. The first consists of those marches which are naturally dominated by one power, because only that one strong power can reach them. The English marches and the western marches of France were of this type; and all such march-lands have been absorbed in the growth of the state whose frontier they guarded in its youth.

The second class of march is represented by those of the eastern and north-eastern frontiers of France. Here the march was a buffer between two stronger powers—France and the Empire—or, in the case of Flanders (and modern Belgium), at the meeting-place of three such powers; since England (and modern Britain) has vital interests in regard to the control of the mouths of the Rhine. The relations of such buffer states to the principal powers may vary very widely. The ruler of Burgundy was vassal to France for one part of his dominions and to the Empire for another. Afghanistan is definitely within the sphere of influence of one power. From 1831 to 1914 the neutrality of Belgium was equally guaranteed by all three of the surrounding powers, and that country was legally independent. March-lands of this intermediate or buffer type have had a far greater extension, in space and in time, than those of our first class. Armenia was such a buffer state between the Roman and Persian Empires, as Korea was

between China and Japan, and Afghanistan is between India and Russia. With infinite variations in detail the general history of such a land is a record of attempts to maintain a precarious independence among its overwhelming neighbours by playing off one against the other, and of a fate determined mainly by the relative strengths and policies of those neighbours, and only to a lesser degree by the strength of the buffer state itself. On more than one occasion only the intervention of Britain has prevented the absorption of what is now Belgium by one of its continental neighbours.

In both these classes the march or buffer state had such a territory and situation that it could not possibly become possessed of any power, in men or material resources, comparable to those of the greater states. March-lands of our third class are distinguished by the fact that they had the possibility of such a development. The mediaeval 'Empire' in Central Europe had no extensive central area capable of nourishing and maintaining a dominant power, such as France had in the Paris Basin and Britain in the English Lowland. Ancient and mediaeval Germany had no focus of national life comparable to Paris or London. But on its eastern frontiers there were the Danube basins and the plains of the Elbe and Oder. The marks established here to guard the eastern frontier against the Slavs had room to grow, and they expanded eastward; so that Austria and Brandenburg-Prussia acquired the strength which has enabled them, in turn, to dominate the empire whose frontiers they were established to guard.

The essential feature of the march was that its lord held the frontier by the resources of the province itself.

Only in extremity did he call on his overlord for assistance. The border warfare of England was conducted by the forces of the border counties. The conquest of Wales was mainly the work of the Lords of the Welsh Marches, though it was completed by national forces under Edward I in pursuance of his policy of uniting the whole island under one crown. The northern borderers were constantly at war with the Scottish marchers; but only when this smouldering warfare blazed up into a national struggle did the main forces of England and Scotland take part. Ordinarily the marches kept out the enemy, and the rest of the country was free to go its way in peace, heedless of the wild life of the border. On very few occasions did a Scottish army penetrate into the lands south of the border marches. The campaign of the Battle of the Standard, which was fought near Northallerton in A.D. 1138, is the chief instance.

To enable him to carry out his task the marcher lord had necessarily very full control of his territory. In practice he was often a virtually independent ruler owning only a nominal allegiance to his king, from whose power he was somewhat sheltered by the length and difficulty of the journey from the capital to the frontier. The extent of his independence varied inversely as the strength of the central power and directly with his distance from it.

All the English marches were of our first class; and here no marcher lord ever developed a power comparable to that of the central authority. This was obviously due to the small area and relative poverty of the frontier districts, which gave no scope for such a growth. The piecemeal conquest of South Wales gave to the earls of

Glamorgan wide estates ; but no possibility of a power to rival that based on the fertile lowlands of England. Nor could any alliance between marcher lords and Welsh chiefs raise such a power. In the north the natural wealth of the Merse gave to the Scottish lords marchers the possibility of a power more nearly comparable to that based on the Midland Valley of Scotland ; and the power of the Douglas was at times a serious rival to that of the King of Scots. But on the English side the Lords of the Marches, though they might equal the Douglas, had no base sufficient to make their power formidable to a strong King of England. And the strongest of them, the Prince-Bishop of Durham, was incapable of founding a dynasty and so had small temptation to seek independence.

On all march-lands the lord naturally endeavoured to increase his power and to become an independent sovereign. In some cases favourable circumstances made it possible for an able ruler to establish a short-lived power based on a march of our second class ; but, since in a series of generations exceptional ability is as likely to occur on one side as on the other, the final fate of these lands depended on their position and resources as compared with those of the suzerain states and on the policies and strength of the suzerains. This second, and most important, type of march-land, the true buffer state between larger powers, is best considered in particular instances.

Armenia is the area where the mountain folds of the northern and southern margins of Asia Minor and of the Iran plateau meet and form a region of confused high ranges and valleys and intermont basins about the mountain knot of Ararat. This land lies between Asia

Minor and Persia. Along its northern edge the furrow of Caucasia stretches from the Black Sea to the Caspian and cuts it off from the Caucasus Mountains; while to the south the Armenian valleys descend to the plain of Mesopotamia. It is a land of narrow valleys and upland basins severed from one another by difficult mountain barriers. In it there is no stable centre of wealth and population, no considerable connected area of fertile land, and no natural focus for its scattered patches of good land; since the outward trend of all its valley ways leaves the heart of the country the least accessible part of it, even from its own marginal territories. Hence Armenia has been important in history chiefly as a buffer between the powers to south and north and east and west of it. It is as a buffer state between the Roman and Persian Empires, and later between the Byzantine Empire and Islam, that the country is best known to European historians. And again in our own times it is as the battle-ground of Russia and Turkey that this distressful land has become prominent. Armenia is a trackway for armies marching to the conquest of richer lands. Its own lack of physical unity has prevented it from having, for any important period, sufficient military strength to protect its borders and maintain its independence; and hence it has been the sport of foreign conquerors. Only under a ruler of exceptional ability, such as Tigranes, could the land achieve political and military unity, and so attain a real independence.

A smaller example of this type of buffer state is offered by the mediaeval Burgundy, one of the heritors of that Middle Kingdom of Lothar which was established on the partition of the Empire of Charlemagne at the

Treaty of Verdun (A.D. 843). This state for some centuries maintained a precarious existence within frequently varying boundaries between France and the Empire, to both of which it was long feudally subordinate. Here also an able ruler, aided by circumstances which added the wealthy Netherlands to his dominions and the weakness of the divided Empire, came near to overpowering his French suzerain to the west and establishing a powerful state from the Alps to the North Sea ; though the geographical advantages which the form and resources of the Paris Basin give to its rulers would inevitably have drawn the centre of power to that region had the dukes of Burgundy become rulers of France as well as of the Netherlands.

Our third type of march, that which is so placed in relation to its suzerain power and to the enemy that it is not easily controlled by the former and has room to grow great at the expense of the latter, is best illustrated by the development of Brandenburg-Prussia. Here, on the middle Elbe, was established one of the eastern frontier marks of the Holy Roman Empire in the ninth century, when the westward spread of the Slavs was checked and the tide of conquest turned eastward. On the map the names of some of the divisions of Central Prussia indicate the general trend of this development, from the Altmark west of the Elbe, and the Mittelmark between that river and the Oder, to the Uckermark in the north-east corner of Brandenburg, and the Neumark which is the eastward projection of that province beyond the Oder. From its base in these marks Brandenburg expanded eastward at the expense of the Slavs. Its exposed position on an open plain, and its function as a frontier mark in the gate between the Bohemian

highlands and the Baltic, made the state necessarily a military autocracy from its beginnings; and as such it expanded slowly and steadily eastward by the incorporation of East and West Prussia, of Silesia and Pomerania, and of parts of Poland, with but few checks. When this eastward acquisition of territory and popu-

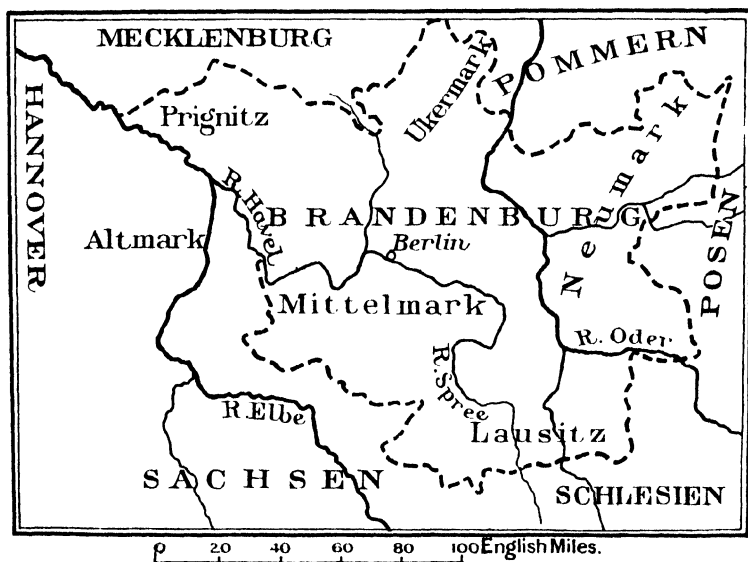


FIG. 4. CENTRAL PRUSSIA

lation, much of which lay beyond the boundary of the Empire itself, had made the growing state populous and powerful, it turned on the power which had established it and aimed at becoming the head of a German Empire. A somewhat similar development, but with a far more rapid territorial expansion and a less thorough incorporation of the populations so annexed, marked the growth of the Öster mark on the Danube into the Austrian Empire, which so long held and later disputed with

Prussia the leadership of Germany. Still another instance of the development of this type of march is furnished by the growth of Savoy into the kingdom of Sardinia and thence into Italy.

A means of guarding, or providing for a future advance of, a frontier which is in some ways analogous to the 'marches' just discussed is the system of 'protected native states' which is so characteristic a feature of modern European expansion. This will, however, be discussed more readily in the next chapter in relation to strategic frontiers.

NOTE.—An advantage which, under some circumstances, made a fighting frontier of great value to a mediaeval state was that it provided the country with a permanent nucleus of veteran soldiers available for a serious war. Similarly the north-west frontier of India has in our own days been a valuable training-ground for the British army.

CHAPTER VIII

STRATEGIC FRONTIERS

THE conception of a frontier as primarily a place of military defence, and, since the 'best defence is offence', as a base of attack, has usually been dominant in the minds of the diplomatists when a new boundary line was being delimited in the treaty which ended a war between neighbouring powers. Hence such lines have often been drawn so as to favour the military interests of the stronger power in case of a future war. Perhaps the two most striking instances of this kind of boundary were the Austro-Italian line from 1866 to 19—, and the north-west frontier of India.

In the former case Austria, although she had just been defeated by Prussia in the war, was in a stronger position than Italy, who had gained no victory of importance; especially as the victorious Prussia did not wish to weaken Austria in order to strengthen Italy. So Venetia, which was the price of the aid Italy had given to Prussia, was narrowly limited. To the east the whole of the plateau of the Carso and its approaches remained Austrian. In the north Italy was allowed to reach the foot-hills of the Alps; but her frontier was left open to Austrian attack down the valleys; while any Italian attack on Austria would have to be made up the slopes against an enemy who held all the important points of vantage. The fact that the southern slopes of the Alps are steeper than the northern makes

an attack from the north easier than one from the south ; and when Austria also held the southern slopes her advantage of position was incalculable. In the phrase used so often in discussions of the Indian north-west frontier this was, for Austria, a thoroughly 'scientific frontier' ;¹ for she possessed both the mountain barrier and the approaches to it from the Italian plain : but the Italians might well apply to it a different description.

The north-west frontier of India is, certainly to English readers, a better known example of the development of the strategic frontier. It is only at its north-west corner that India is readily accessible by land. Elsewhere her land frontiers consist of wide areas of mountainous country. Here the mountain belt narrows ; the drier climate prevents the formation of the forests and swamps which on the northern and north-eastern frontiers add so much to the isolation of the country ; and several relatively easy passways give access to the plateau of Iran and the lowlands of Central Asia. Through these passways have come successive waves of immigrants, invaders, and conquerors, attracted by the wealth of the fertile plains. The British, who came by sea, are the exception to the general statement that the foreign conquerors of India entered by these north-western gates. Hence for all rulers of India the chief problem of defence has been the holding of this relatively weak link in the strong natural barriers which form its land frontiers.

The British found no definite or secure frontier barrier

¹ It should not be necessary to note that the use of this term to denote a frontier which is, in a military sense, specially advantageous to one side is a perversion of the meaning of science.

from the Sunderbunds north-westwards along the plains of India ; and so they were urged on by the need of attaining such a frontier till their power reached the foot of the north-west passes. This frontier of the Indian Empire now consists of the wide area between the Indus River and the northern boundary of Afghanistan. Here there is what Lord Curzon has well called a 'threefold frontier',¹ the three boundary lines of which mark the limits of different degrees of the claims and responsibilities of the Indian Empire. There is first the inner administrative boundary, which limits the territory for which the Indian Government is directly responsible. Next comes the Durand line, delimited by an agreement made with Afghanistan in 1893, which marks the limits between the claims of India and Afghanistan to authority over the border tribes and so forms the boundary of the area within which the Empire is directly responsible for the maintenance of order ; though many of the tribes within it are practically autonomous. Lastly, the northern boundary of Afghanistan limits the outer strategical frontier, since it was demarkated by Britain and Russia jointly, and it marks the limit between the areas respectively under the influence of these two Powers.

This strategic frontier thus includes the protected buffer state of Afghanistan ; and hence that country is, for some purposes, within the Indian Empire. In this case the protectorate is so situated as to prevent actual contact between the territory directly controlled by the protecting power and that of the rival power. Such frontier protected states differ from the marches of mediaeval Europe in that they were not, as a rule,

¹ *Frontiers*, p. 41, second edition, Oxford, 1908.

directly established by the suzerain power, and in that they are usually under the immediate authority of native rulers, not of lords appointed by the suzerain; also their peoples are of a different race; and, in most instances, they are at a lower stage of political development than the protecting state. But the differences are perhaps less than the resemblances. Both frontier march and protectorate mark early stages in the advance of an expanding power; and both are parts of its strategic frontier in that it is ultimately responsible for their defence.

The protectorate over native states, as a device for guarding a frontier by avoiding direct contact with a rival, or as a more or less conscious step preparatory to the advance of the frontier, is a feature common to the expansion of many empires over territory occupied by weaker states at the same or a slightly lower stage of civilization. In her north-west frontier against the barbarians Rome adopted first the policy of direct conquest, and later that of building barriers; but in the more civilized East the advance of her empire was heralded by a series of protectorates over native states—from Latium to Armenia. Similarly the westward advance of the United States from the Atlantic seaboard was by a process of direct conquest; while that of the British Empire in India was rather by a series of protectorates, and the later absorption of many of the protected states. So the expansion of European possessions in Africa in the last generation was frequently begun by the negotiation of treaties establishing protectorates over the territories of native chiefs, and continued by the gradual increase of effective control over those territories. The British protectorates of

Zululand and of Uganda, the similar French control of Tunis and Madagascar, the German advance from Damaraland and the mainland territory of Zanzibar, and the Italian attempt to control Abyssinia offer examples of this type of advancing frontier.

A still further refinement of the preliminary stages in such an advance has been developed in modern times in the form of 'spheres of interest' and 'spheres of influence'. In a direct protectorate the suzerain power has considerable responsibilities in regard to the foreign relations of the protected state and the security of the life and property of foreigners there. But a declaration, which may be more or less tentative, by a particular power that it regards itself as having special interests in a given territory, i.e. a declaration of a sphere of interest, carries with it no such direct responsibilities. It is merely a method of staking out a claim. If the claim is admitted by other powers, who might be serious rivals, the area becomes a sphere of influence of the first power. The delimitation of most of Africa into spheres of influence by Britain, France, Germany, Portugal, Belgium, and Italy in the latter part of the nineteenth century marked the beginning of the effective occupation of that continent. The recognition of a sphere of influence implies no more than that the power concerned is free to take possession of the territory so defined, without any objection or interference from those who have recognized the claim. But if a claim to a sphere of influence is not made good by some measure of effective control within a reasonable time, it is likely to be regarded as a 'dog-in-the-manger' policy by others who may be desirous of exploiting part of the territory so reserved. It is hardly necessary to

point out that the inhabitants of the sphere of interest or influence are usually not consulted in any way by the interested power.

The most extensive area over which any such claim to special interests has been advanced by one power is that of the Americas, embraced by the Monroe Doctrine of the United States. This warning to other powers to keep their hands off the American continents was not accompanied by the assumption of any responsibility for the rights of Europeans, or for the maintenance of order, in most of those areas. The aggressive colonial expansion of Europe has been concentrated on Africa during most of the nineteenth century. And Britain, the power most favourably placed to challenge the Monroe Doctrine, found it more in accordance with her interests to give it a tacit support. But it seems probable that, but for the failure of Germany in her attempt to dominate Europe, she would soon have challenged the assertion that South and Central America are no longer fields for European imperial expansion.

The advantage of such frontier protectorates as Afghanistan is that they place a considerable width of territory between that of the protecting power and the bases from which it may be attacked, and so guard it from surprise attack, and reduce the risk of friction on the boundary. If the protectorate has any military strength its own power of defence strengthens the barrier. Against this advantage are to be placed the risks incurred by undertaking the responsibility of maintaining the integrity of the protected state against other powers in case of need. In any particular case the relative advantages and disadvantages will be carefully weighed ; and the policy of the suzerain power is

likely to be determined solely by the view its rulers take of them. And the fate of the protected state will be mainly determined by that policy.

Here we may add that for many states which are nominally independent it is largely true that their independence does not rest wholly, or mainly, on their own powers of self-defence, but on the interests and policies of great powers concerned. For many years past the independence of Belgium and Holland, of Denmark and Switzerland, has been maintained by the powers interested in the preservation of the Balance of Power in Europe ; and, in the former case, especially by Britain's interests in the shores of the narrow seas and the mouths of the Rhine. It was as true to speak of the eastern and southern edges of Belgium as an outer strategic boundary of Britain, as to apply that term to the northern edge of Afghanistan ; since the violation of either would involve Britain in war.

CHAPTER IX

EVOLUTION OF FRONTIERS

FROM a study of past and present frontiers and boundaries it is possible to discover their main trends of development. Three of these stand out prominently. They are (1) a tendency towards precision of boundary lines, (2) a tendency towards the coincidence of political with linguistic and national boundaries, and (3) a tendency towards the placing of boundaries in those natural zones of separation which we have called Natural Barrier Frontiers (see Chapter IV). Many other tendencies are traceable, especially towards the modification of boundaries in accordance with the strategic or economic interests of strong powers; but the three just mentioned appear to be the chief. How far they are general, how far they are likely to extend, and what results may be anticipated from them, are questions of very considerable interest.

First, it is clear that the tendency towards precise demarkation is universal among civilized powers. The territories of savage tribes or barbarous states had precise limits only where they were bounded by the sea, or a great river, or some other very definite and strong natural barrier. The territories of modern civilized states are almost everywhere enclosed by lines which have been carefully delimited and, for the most part, accurately demarkated, even in areas which have little or no intrinsic value. In the Middle Ages there were

very few precise boundaries in Europe; though the place of meeting of the territories of two states on a highway was probably always definitely marked. Norway and Sweden left the 'wilderness' between them as a common unclaimed land till the middle of the eighteenth century, when their boundary in it was first definitely determined.¹ In many parts of the world there are still undefined boundaries; but their number and extent has decreased enormously within the last generation. In South America many hundreds of miles of boundary lines have been demarkated between the several republics. In Africa also European Boundary Commissioners have been busy marking out the limits of the spheres of influence. And it is probable that before many years have gone all the important international frontiers of the world will have reached this stage of precision of the boundary line. When this is attained one fertile source of friction between states will have been eliminated.

The second tendency is also a relatively modern development. The nineteenth century was specially marked in Europe by the growth of the spirit of nationalism. The peoples of that continent have become consciously grouped into nations; and as each nation has become conscious of itself and its separate existence, there has grown up within it a demand for self-government, either in the form of national independence or of autonomy within a super-national federal state. Unfortunately this demand has clashed with the claims and vested interests of the established state organization, wherever this includes people of more than one nation. Elsewhere the nation, young in its self-consciousness,

¹ *Norway*, official publication, Kristiania, 1900.

seeks to extend its power and to suppress, or forcibly include within itself, people of other nationality who may live within its territory. So prominent is this policy in Central and Eastern Europe that a whole series of new words has been coined to express its different aspects ; and such words as Germanization, Russification, Magyarization, Hellenization, and so on, which were almost unknown before the last century, name policies which produce extensive friction between the nations.

In its reactions on the development of frontiers this spirit of nationalism tends towards the identification of state and national boundaries. The great civilizations of the past knew nothing of nationalism. The Roman Empire had no such problem. Feudal Europe was not affected by it ; and the remnants of feudal government are hostile to nationalist aspirations. The sense of religious unity in Mediaeval Christendom was stronger than the sense of diversity of nationality ; and men were Christians before they were Frenchmen or Germans. In the great wars of the sixteenth and seventeenth centuries a common religion was still a more potent bond than a common nationality, except among parts of the English and French nations. And even in 1815 the Congress of Vienna practically ignored any national spirit in Central and East Europe, and drew the political boundaries without any regard to it. But with the spread of popular education and of democratic ideals nationalism has become a force to be reckoned with. Among the greatest dangers to the peace of Europe in the last few decades have been the desires of subject, or partly subject, nations, such as the Poles, the Romanians, and the Serbs, to achieve national unity and independence, and the threatened disruption of the Austro-Hungarian Monarchy

by any progress towards the fulfilment of these desires. The existence of 'Italia Irredenta', and the desires of Italians to 'redcem' it, was yet another instance of the tendency to identify national and state boundaries. The 'imperialist' tendency towards the absorption of the smaller peoples into the large empires has also been strong; and it has been opposed by the growth of intense patriotisms among these peoples, who have become animated by a passionate desire to maintain their national traditions and languages: a desire which, when opportunity offers, too easily gives rise to attempts to impose them on others.

Where the areas occupied by neighbouring nations are fairly distinct it is not impossible to delimit an international boundary in accordance with the aims of nationalism; though such a boundary might give rise to dangers as great as those which its acceptance would remove. For instance, the full realization of the claims of some Italian Irredentists to the north-eastern shores of the Adriatic would involve the interposition of a narrow coastal strip of Italian territory between the German lands of Austria and that sea. If this led to the erection of fiscal barriers, or any other restriction on Austria's economic access to the Adriatic, it would constitute a serious menace to the maintenance of peace in that region. Also it would be almost impossible to defend such a strip against the power of the hinterland, and knowledge of this fact would be a temptation to that power to attack it. And in the same region the extreme claims of Italians and Jugoslavs are utterly incompatible.

But very many areas are inhabited by people of more than one nation. In Poland the area of continuous

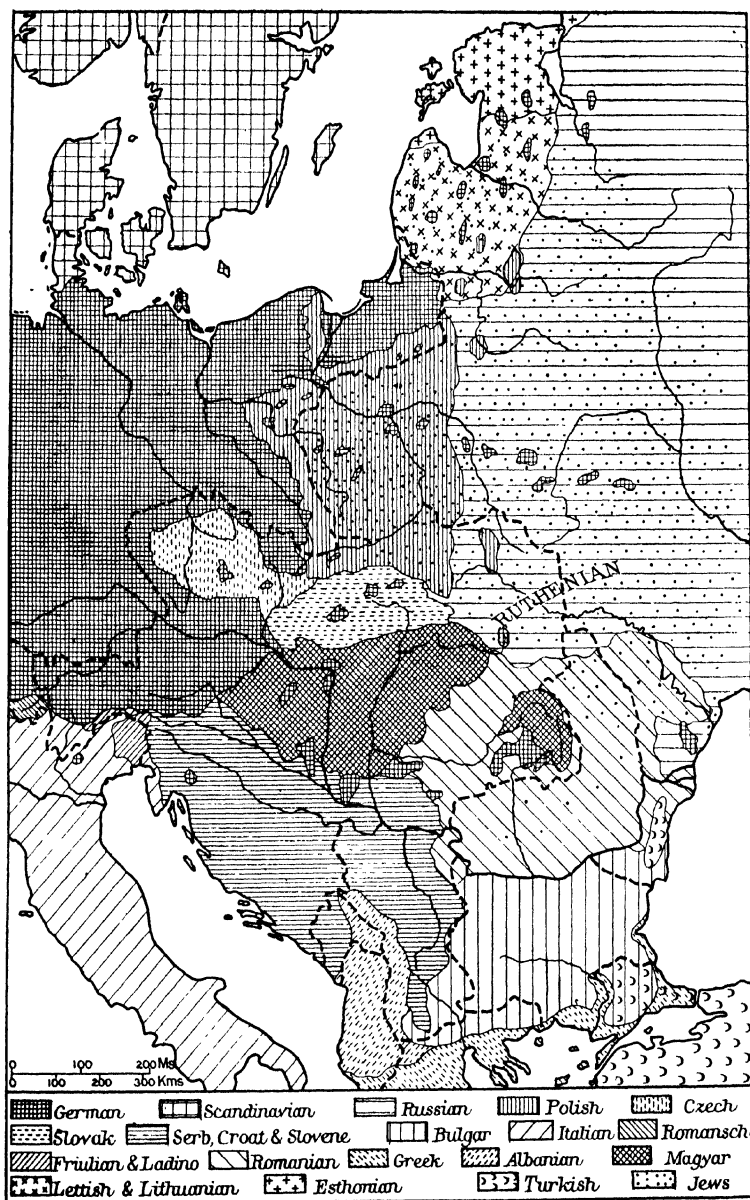


FIG. 5. LINGUISTIC AREAS IN EAST CENTRAL EUROPE
(Political boundaries as in July 1914.)

Polish population is broken by numerous islands of German colonists, and by the presence of a large Jewish population. In all the lands of East Central Europe, from the Baltic to the Aegean and the Black Sea to the Adriatic, the dominant fact of national distributions is that of intermixture. Hardly anywhere in this part of the Continent is there a large continuous area inhabited solely by people of one nation. Nowhere are the territories occupied by the different nations marked off from each other by clearly defined limits for any considerable distance. Every nation here includes within the area it claims enclaves inhabited by foreigners, and has itself detached islands of its people in foreign territory.¹

Under these circumstances it seems clear that if the claims of each nation to independence are admitted only three courses are open for the satisfaction of nationalist aspirations and the establishment of peace. The first is to abandon to the majority nation, in each state set up, the minority of foreigners in its territory ; and to encourage the absorption of these foreigners into the dominant nation. If the boundaries were chosen so as to keep the minorities as small as possible, this course might be sufficient in so far as nationalist aspirations are concerned. The second course is to provide for the local autonomy of all islands of foreign settlement, as for instance the German population about Gottschee in the Yugoslav lands and the Magyar Szeklers in Transylvania. Such a policy would produce very great complications. It might be possible in a

¹ For a description of part of this area of intermixture see the article by B. C. Wallis on 'Distribution of Nationalities in Hungary' in the *Geographical Journal* for March 1916.

federal state ; but it seems to be inconsistent with any full recognition of the sovereign independence of each nation. The third policy is to encourage, and if necessary compel, the migration of the minority in each case to the area allotted to their nation ; for instance, if this policy were adopted the Szeklers would be required either to leave their homes in Transylvania or to abandon their Magyar nationality and become, or allow their children to become, Romanians. A strong tendency to such migrations, and the consequent more definite segregation of the several nations, was seen in the movements of population across the new international boundaries set up in the Balkans in 1913. A combination of the third and first of the courses here mentioned would probably be the best solution of the difficulties, and would soonest lead to that coincidence of national and political boundaries which is the avowed aim of nationalist agitations. But the detailed application of any such policy would be extremely complicated ; and it might give rise to a good deal of temporary irritation. And in many cases it would produce very bad boundaries.

Other difficulties in the settlement of boundaries arise from economic considerations. Poland can hardly have any real independence while her natural outlet to the sea, by the mouths of the Vistula, is held by another power. But to include the land about the lower Vistula in Polish territory would be to hand over to the Poles a considerable area peopled mainly by Germans, and also to cut off from the main body of Germany the purely German lands of East Prussia.

Still other difficulties arise from strategic considerations. An independent state of the Czechs of Bohemia

and Moravia, with or without the Slovaks of northern Hungary, would have a militarily indefensible frontier unless its boundary were drawn along the crests of the heights which enclose Bohemia on the west, north, and south-west. But if its boundaries were so drawn it would include a large minority of Germans; and, as these Germans would have at least the moral support of the vast body of the German nation around Bohemia in their resistance to any attempts at denationalization, the risks of conflict might be rather increased than diminished by their inclusion in a Czech state.

The tendency towards the coalescence of national and political boundaries is among the strongest forces at present working towards the modification of state frontiers. But enough has been said to show that modification in this direction raises, in such a land as East Central Europe, a large number of difficult problems of adjustment. It is not necessary to go into the question of what constitutes a nation—if the people of Alsace feel themselves to be French and desire to be part of France, then they must be regarded as French, whatever their linguistic or racial connexions may be.

The influence of economic interests has been mentioned. In lands where nationalism is well developed it is not probable that such interests will be regarded as dominant, though they will have considerable weight. But in the delimitation of boundaries in those large areas of the earth where conscious nationalism does not yet exist economic considerations may play a dominant part. The boundaries marked on the political map of intertropical Africa in 1914 showed that continent divided up among several European powers. The motives which led those powers to claim the territories

allotted to them were various ; but it is probably safe to say that the chief were the desire for access to the sources of those raw materials produced only in the hot belt of the world which are essential to modern industry (such as rubber), and the desire for markets. Unrestricted economic competition among the industrial powers inevitably led each of them to seek to control as large a share of these intertropical lands as possible.

It has already been noted that the boundaries between the European territories in most of Africa are essentially only preliminary lines. In this region there is no present possibility of the rise of self-governing native states. The negroes are in most cases still barbarians ; and between the Sahara and the Zambesi there is no prospect of the development of a native power capable of maintaining peace and order and freedom of movement within its territories. Hence these lands must be administered by the more advanced peoples for some time to come. How the task is to be shared among them, and how far there shall be equality of access to these lands and their products, are questions on the answers to which the future peace of the world will largely depend. If at the end of this war the ideal of a permanent League of Nations to establish a World Peace can be realized, even partially, the best solution would be to place the whole of this vast region under the direct control of that League. In any case the near future is certain to see great changes in the political map of Africa, as well as in that of Europe, and to attempt to exclude any of the industrial nations permanently from economic access to these lands would be to set up a source of international friction.

Besides these tendencies towards precision of boundary

lines and to the coalescence of political and national boundaries there is a third tendency to be noted. This is the tendency to place political frontiers in natural zones of separation. This particular tendency had much freer play in the past than now. Where settlement is almost complete, and states have become definite, as in western Europe to-day, there is little scope for it. So long as the nations remain distinct some frontiers will be frontiers of contact. But the frontier of separation, where the boundary line is drawn along a natural barrier in a thinly peopled area, so obviously minimizes the chances of friction and the temptations to aggression, and so makes for the greater stability of the state, that the desire to reach such a frontier has been the cause of innumerable wars; and its attainment has often removed a constant source of friction. For France the final recognition of the Pyrenees (in 1659) and of the Alps (in 1859) as her frontiers, in each case placed a zone of almost uninhabited territory and a difficult mountain barrier between her and her neighbours, and so set a definite visible limit to the expansionist ambitions of her rulers and Chauvinists. The traditional ideal of the 'natural frontiers' of France as the sea, the Pyrenees, the Alps, and the Rhine, was thereby satisfied in so far as it aimed at attaining natural barrier frontiers. In the British Indian Empire the tendency of frontier evolution has also been towards the coincidence of the political frontier with the zone of separation which surrounds the land, from the Makran Desert to the jungle-clad mountains which sever Assam from Burma. So the Magyar state has reached out to the forested Karpathian Mountains; though its dominant people are plainsmen. Where there is a fairly continuous zone of

separation round the area on which a state has developed there has been a strong tendency to make that zone its frontier.

But from the Alps to the North Sea there is no definite continuous zone of separation between France and her neighbours in the Rhine lands. Here, in spite of the presence of minor barrier regions in the Vosges and the Ardennes, and other small areas of obstacles to easy movement, the frontier is essentially one of intercourse, penetrated by many natural routes between the valleys of the Seine and Rhone and the Rhine lands. Yet the boundary has shown some tendency to pass through the minor separating areas within this frontier.

The ideal frontier would be one which would minimize all risks of friction and war between the states it separates. It should also lend itself to the needs of a strong defence on each side,¹ while it should not prevent friendly intercourse across it. These requirements are best satisfied by zones of distinct natural barriers or obstacles to human movement and occupation, where these exist between regions favourable to the development of states and nations. As such zones must be areas of relatively scanty population they form a break in the distribution of the people, and so a convenient place for the transition from one state to another. And while such frontiers tend to hinder frequent intercourse, in practice the freedom from friction and the relative security they offer has been sufficient to more than counterbalance this restriction. The fact that Europe

¹ The present war has shown the great defensive possibilities of a trench line in only moderately difficult country; hence it is easier now than ever before to define boundaries which are capable of strong defence.

possesses many such frontiers of separation, sufficiently strong to give moderate security but not so difficult as to prevent frequent human intercourse, has been a very important factor in the development of that diversity of regional cultures in a unity of European civilization which has placed its peoples in the forefront of human progress. Where there is no distinct zone of separation it is usually the case that the watersheds provide the nearest approach to it. A boundary which follows the divides as far as possible is least likely to lead to the severance of small natural regions of human occupation, such as a valley or a group of connected valleys. Also since to cross such a boundary an advance from either side must be made uphill, it is more favourable to defence than most other lines in such country : though from this point of view the relation of the divide to the hills in its neighbourhood is of great importance.

But however much good frontiers and boundaries may make for peace by reducing the chances of friction between states and favouring the defence, no perfection of frontiers can alone secure peace. That depends essentially on the world-wide recognition of the right of each human group to work out its own destiny within its own frontiers, and of its duty to respect the corresponding rights of others.

INDEX

Heavy type denotes the page on which the principal reference, or a definition, occurs.

- Abyssinia, 76.
- Adriatic, shores of, 95.
- aerial navigation, 45.
- Afghanistan, 70, 77, 78.
- Africa, intertropical, 99, 100.
- Age of Discovery, 14.
- Agreement, British-Belgian, 74.
- Agreement, Franco-British, 74.
- Alps, 27, 42, 43, 45, 101.
- Alsace, 99.
- Amur, 50, 57.
- Andes, 40.
- Andorra, 28.
- Armenia, 77, 80.
- Ashburton Treaty, 69.
- assimilation, 13.
- astronomical boundaries, 66, 67, 68.
- Atlantic, 14, 35.
- Austria, 78, 83.

- Belgian-French, 32.
- Belgium, 77, 78.
- Bohemia, 98.
- Boundary, 5.
 - Austro-Italian, 85.
 - Bolivia-Peru, 27.
 - Canada-Alaska, 15, 67, 70.
 - Canada provincial, 72.
 - Canada-United States, 27.
 - Commission, 24, 93.
 - economic considerations, 98, 99.
 - Franco-German, 15, 59.
 - international, 5.
 - interstate, 5, 71, 72.
 - meridian, 67.
 - Montana-Idaho, 71.
 - national, 92, 99.
 - strategic considerations, 98.
 - Victoria-South Australia, 68.
 - Brandenburg-Prussia, 78, 82.
 - Burgundy, 77, 81.

 - California, 39.
 - Cheviots, 23, 60.
 - China, 50, 62.
 - Climatic frontier, 18.
 - coast, 17.
 - Colorado, 25, 51, 52, 71.
 - Columbia River, 51, 71.
 - Curzon, Lord, 66, 87.
 - Czechs, 98.

 - Danube, 50, 51, 53, 55, 57.
 - Darfur-Wadai frontier, 28.
 - 'Debateable Ground', 63.
 - Dekkan, 53.
 - Delaware, 51.
 - delimitation, 6.
 - demarkation, 6.
 - density of population, varying, 9.
 - Desert, 37.
 - Durand Line, 70, 87.

 - Eider, 54.
 - emigration, 12.

 - Fenland, 49, 60.
 - Flanders, 77.
 - Forest, 46.
 - Forth, 51, 60.
 - French, 45, 99.
 - Frontier, 5.
 - Anglo-Scottish, 60, 63, 64.
 - artificial, 32.
 - Austro-Italian, 45.
 - barrier, 63, 101.
 - British, 58.
 - Canada-United States, 68, 69.
 - China-Korea, 62.
 - of contact, 33, 62.

- Frontier (*cont.*).
 fortresses, 29.
 Franco-Belgian, 32, 58.
 Franco-Spanish, 45.
 Franco-Swiss, 23.
 ideal, 102.
 Indian, 42, 101.
 Indian, North-west, 86.
 intercourse, 30, 32.
 marsh, 15, 47, 60.
 military, 57, 65.
 mineral wealth in, 15.
 natural, 32.
 Norse-Swedish, 32, 93.
 political, 21, 92, 99.
 racial, 20, 44.
 Roman, 57.
 Russo-German, 29.
 scientific, 86.
 sea, 22, 34, 59.
 of separation, 30, 33, 37, 92, 101.
 Turko-Persian, 63.
 United States-Mexico, 51, 71.
 vegetation, 10, 19.
 waste, 62.
- Geometrical boundaries, 66.
 Germans, 45, 97, 98, 99.
 Gottschee, 97.
 Grande del Norte, R., 51.
- Hungary, 57.
- intercourse, concentration of, 31.
 Irish Sea, 35.
 Iron Gates, 53.
 Irrigation, 56.
 'Italia Iridenta', 95.
 Italian, 45.
- Jews, 97.
 Jugoslav, 95, 97.
- Kalahari, 38.
 Korea, 62, 77.
- Lake of the Woods, 56, 68, 70.
 land border, 22.
 land-hunger, 26.
 League of Nations, 100.
 linguistic borders, 20, 44, 92, 96.
 Lorraine, 15.
- Magyar, 97, 101.
 Man, Isle of, 36.
 Marches, classes of, 77.
 Marches, Scottish, 79, 80.
 Marches, Welsh, 79, 80.
 mark, 26.
 marsh (frozen), 48.
 Mekong, 50, 53.
 Migration, 11, 98.
 Mississippi, 51.
 Monroe Doctrine, 90.
 Mountains, 39.
 Murray, 51, 56.
- nation, 5, 93.
 nationalism, 5, 93, 94.
 nationality, 5.
 neutral zone, 28.
 New Zealand, 12.
 North Channel, 35.
- Offa's Dyke, 64.
 Ohio, 51.
 Ottawa, 51.
- 'Palisades', 64.
 Paris, Treaty of, 69.
 Pennine, 9, 40, 41.
 Peru-Bolivia boundary, 27.
 Piedmont, 18.
 Poland, 95, 98.
 Poles, 97, 98.
 Potomac, 51.
 Pripet marshes, 15, 47.
 protectorate, 87, 88, 90.
 Prut, 51.
 Pyrenees, 27, 45, 101.
- quarantine, 29.
- race, 4.

- reference boundaries, 66.
Rhine, 51, 57, 77, 101.
Rhone, 51.
rivers, regulation of, 55.
Rocky Mountains, 40, 72.
Romanians, 98.
- Sahara, 13, 38, 100.
Saint Croix, 69.
Saint Lawrence, 69.
Sartiaux, M., 58.
Sava, 50.
Savannah, 51.
Savoy, 84.
Shannon, 51, 61.
Slovaks, 99.
Snake River, 51, 71.
snow-line, 18.
sphere of influence, 89.
sphere of interest, 89.
staples, 31.
state, 4.
strait, 36.
Sussex, 60.
swamp, 47.
Szeklers, 97, 98.
- Thames, 51, 61.
Tibet, 42.
Transylvania, 97.
travellers (across frontiers), 58.
Treaty Ports, 31.
Tweed, 61.
- Verdun, Treaty of, 82.
Vienna Congress, 94.
- Wadai-Darfur, 28.
Wall of China, the Great, 63.
Walls, Roman, 64.
Wallace's Line, 19.
watershed, 103.
Watling Street, 65.
Weald, 60.
Wedmore, Treaty of, 65.
Wight, Isle of, 35, 36.
'Wilderness' of Maine, 69.
- Yukon, 15, 66.
- Zambesi, 100.

PRINTED IN ENGLAND
AT THE OXFORD UNIVERSITY PRESS

